



Certificate of Calibration

ISO/IEC 17025:2017 and ANSI/NCSL Z540.3-2006

Certificate Number 1-13646873990-1



Model Number N9038A
Manufacturer Keysight Technologies Inc
Description MXE EMI Receiver
Serial Number MY53220134

Date of Calibration 12 Jan 2021
Procedure TME-N7818A-E.11.00
Temperature (23 ± 5) °C
Humidity (50 ± 30) %RH

Customer
Compliance Testing LLC
1724 S Nevada Way
MESA AZ 85204-6624
United States

Location of Calibration
Keysight Technologies Inc
10090 Foothills Blvd.
Roseville CA 95747-7102
UNITED STATES

This certifies that the equipment has been calibrated using applicable Keysight Technologies procedures and in compliance with ISO/IEC 17025:2017 and ANSI/NCSL Z540.3-2006. The quality management system is registered to ISO 9001:2015.

As Received Conditions

Initial testing is not part of the service ordered. Thus, neither compliance nor non-compliance with specification can be declared.

Action Taken

- The equipment was repaired.
- The equipment was adjusted.

As Completed Conditions

The measured values of the equipment were observed in specification at the points tested. Additionally, the expanded measurement uncertainty intervals about the measured values were in specification.

Remarks or Special Requirements

This calibration report shall not be reproduced, except in full. The documented results relate to the equipment calibrated only.

The test limits stated in the report correspond to the published specifications of the equipment, at the points tested.

This calibration report may refer to equipment manufactured by HP, Agilent and Keysight as being manufactured by Keysight Technologies.

Based on the customer's request, the next calibration is due on 12 Jan 2022.

Keysight Technologies Inc
10090 Foothills Blvd.
Roseville CA 95747-7102
UNITED STATES

Issue Date 13 Jan 2021

Wes Fischbach Roseville Serv. Cntr. Mgr.

Traceability Information

Technician ID Number N1012666

Measurements are traceable to the International System of Units (SI) via national metrology institutes (www.keysight.com/find/NMI) that are signatories to the CIPM Mutual Recognition Arrangement.

Calibration Equipment Used

Model Number	Model Description	Equipment ID	Cal Due Date
10 MHz External Reference	Rubidium Standard	FS72533342	9 Mar 2021
11667A	DC-18 GHz power splitter, type N, 50 ohm	11667A57990	26 Feb 2021
11667B	Power splitter, DC to 26.5 GHz, 3.5 mm female connectors	11667B03613	14 Sep 2021
11667C	DC - 50 GHz power splitter, 50 ohm	11667C01235	3 Sep 2022
33250A	Function/Arbitrary Waveform Generator, 80 MHz	33250A12759	29 Sep 2021
3458A	Digital multimeter, 8.5 digit	3458A42141	28 Jun 2021
500-13438D	10MHz-1GHz Phase Lock Frequency Source Rev.D	500-1343831449	7 Oct 2021
53132A	Input Universal Counter, 225 MHz, 12 digit/s, 150 ps. GPIB, RS232	53132A01423	8 Apr 2022
8482A	Power Sensor, 100 kHz to 4.2 GHz, -30 to +20 dBm	8482A11442	10 Jul 2021
8485A	Power Sensor, 50 MHz to 26.5 GHz, -30 to +20 dBm	8485A90935	24 Feb 2021
8487D	Power Sensor, 50 MHz to 50 GHz, -70 to -20 dBm	8487D20001	28 Aug 2022
8487D	Power Sensor, 50 MHz to 50 GHz, -70 to -20 dBm	8487D20003	16 Sep 2021
8490D	Coaxial fixed attenuator, dc-50 GHz	8490D07480	6 Jan 2022
8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A50198	31 May 2021
8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A05249	13 Aug 2021
8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A29405	13 Nov 2021
8491B	Coaxial attenuator, dc - 18 GHz, Type N	8491BA0299	8 Mar 2021
8493C	Coaxial fixed attenuator, dc to 26.5 GHz	8493C73530	13 Nov 2022
8493C	Coaxial fixed attenuator, dc to 26.5 GHz	8493CA0085	22 Apr 2021
8494G	0-11dB programmable step ATTENUATOR., dc-4GHz	8494G40782	1 Mar 2021
8496G	0-110dB programmable step attenuator, dc-4GHz	8496G40597	1 Mar 2021
85054B	Standard mechanical calibration kit, DC to 18 GHz, type-N	85054B00363	25 Jun 2021
85056A	Standard mechanical calibration kit, DC to 50 GHz, 2.4 mm	85056A00202	24 Feb 2021
86205A	50 Ohm RF bridge 300kHz to 6GHz	86205A01716	15 Apr 2022
E4419B	Power meter - EPM series, dual channel	E4419B11288	27 Jan 2022
E5071C	ENA Series Network analyzer	E5071C02659	16 Mar 2021
E8257D	PSG analog signal generator	E8257D10802	14 Feb 2022
E8257D	PSG analog signal generator	E8257D30457	28 Jul 2022
E9304A	Power Sensor-Average, 9 kHz to 6 GHz, -60 to +20 dBm	E9304A50015	2 Mar 2021

Certificate Number 1-13646873990-1

Model Number	Model Description	Equipment ID	Cal Due Date
E9304A	Power Sensor-Average, 9 kHz to 6 GHz, -60 to +20 dBm	E9304A50011	19 Mar 2022
IGUU2916	EMI Calibration Pulse Generator	IGUU2916916187	11 Dec 2021
N5230C	PNA-L network analyzer	N5230C02393	31 May 2021
N8487A	Power Sensor - Thermocouple, average, 50MHz to 50GHz	N8487A80008	11 Jun 2022
N8487A	Power Sensor - Thermocouple, average, 50MHz to 50GHz	N8487A10001	21 Jul 2022

Traceability Table

	Model	Model Description	Equipment ID	Certificate Number	Trace Value
W,R	10 MHz External Reference	Rubidium Standard	FS72533342	1-12318121696-1-ANAB:AC-1498.01	Frequency
W,R	11667A	DC-18 GHz power splitter, type N, 50 ohm	11667A57990	1-12332845182-1-ANAB:AC-1498	Reflection Coefficient
W,R	11667B	Power splitter, DC to 26.5 GHz, 3.5 mm female connectors	11667B03613	1-13166093628-1-ANAB:AC-1498	Reflection Coefficient
W,R	11667C	DC - 50 GHz power splitter, 50 ohm	11667C01235	1-13112347515-1-ANAB:AC-1498	Reflection Coefficient
W,R	33250A	Function/Arbitrary Waveform Generator, 80 MHz	33250A12759	1-13237000797-1-ANAB:AC-1498	AC Voltage Frequency
W,R	3458A	Digital multimeter, 8.5 digit	3458A42141	1-12816868193-1-ANAB:AC-1498	AC Voltage
W,R	500-13438D	10MHz-1GHz Phase Lock Frequency Source Rev.D Input	500-1343831449	1-13144809777-1-ANAB:AC-1498	Phase Noise
W,R	53132A	Universal Counter, 225 MHz, 12 digit/s, 150 ps. GPIB, RS232	53132A01423	1-12380318040-1-ANAB:AC-1498	Frequency
W,R	8482A	Power Sensor, 100 kHz to 4.2 GHz, -30 to +20 dBm	8482A11442	1-12151418206-1-ANAB:AC-1498	RF Power
W,R	8485A	Power Sensor, 50 MHz to 26.5 GHz, -30 to +20 dBm	8485A90935	1-12659709960-1-ANAB:AC-1498	RF Power
W,R	8487D	Power Sensor, 50 MHz to 50 GHz, -70 to -20 dBm	8487D20001	1-13076294022-1-ANAB:AC-1498	RF Power
W,R	8487D	Power Sensor, 50 MHz to 50 GHz, -70 to -20 dBm	8487D20003	1-13220976536-1-ANAB:AC-1498	RF Power
W,R	8490D	Coaxial fixed attenuator, dc-50 GHz	8490D07480	1-13788212930-1-ANAB:AC-1498	Attenuation
W,R	8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A05249	1-13014688070-1-ANAB:AC-1498	Attenuation
W,R	8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A29405	1-13432197837-1-ANAB:AC-1498	Attenuation
W,R	8491A	Coaxial attenuator, dc-12.4 GHz, Type N	8491A50198	1-11295868540-1-ANAB:AC-1498	Attenuation
W,R	8491B	Coaxial attenuator, dc - 18 GHz, Type N	8491BA0299	1-12660508038-1-ANAB:AC-1498	Attenuation
W,R	8493C	Coaxial fixed attenuator, dc to 26.5 GHz	8493C73530	1-13480390559-1-ANAB:AC-1498	Attenuation

	Model	Model Description	Equipment ID	Certificate Number	Trace Value
W,R	8493C	Coaxial fixed attenuator, dc to 26.5 GHz	8493CA0085	1-11272886665-1-ANAB:AC-1498	Attenuation
W,R	8494G	0-11dB programmable step ATTENUATOR., dc-4GHz	8494G40782	1-12671930960-1-ANAB:AC-1498	Attenuation
W,R	8496G	0-110dB programmable step attenuator, dc-4GHz	8496G40597	1-12671930960-2-ANAB:AC-1498	Attenuation
W,R	85054B	Standard mechanical calibration kit, DC to 18 GHz, type-N	85054B00363	1-12671928966-1-A2LA:2079.01	Reflection Coefficient
W,R	85056A	Standard mechanical calibration kit, DC to 50 GHz, 2.4 mm	85056A00202	1-12177857407-1-A2LA:2079.01	Reflection Coefficient
W	86205A	50 Ohm RF bridge 300kHz to 6GHz	86205A01716	1-12601437538-1	
R	E5071C	ENA Series Network analyzer	E5071C06511	1-12368394877-1-ANAB:AC-1498	Reflection Coefficient
W,R	E4419B	Power meter - EPM series, dual channel	E4419B11288	1-12903246987-1-ANAB:AC-1498	RF Power
W,R	E5071C	ENA Series Network analyzer	E5071C02659	1-12372027643-1-ANAB:AC-1498	Attenuation Frequency Reflection Coefficient
W,R	E8257D	PSG analog signal generator	E8257D30457	1-12982895781-1-ANAB:AC-1498	Frequency Phase Noise RF Power Spectral Purity
W,R	E8257D	PSG analog signal generator	E8257D10802	1-13001507157-1-ANAB:AC-1498	Frequency Phase Noise RF Power Spectral Purity
W,R	E9304A	Power Sensor-Average, 9 kHz to 6 GHz, -60 to +20 dBm	E9304A50015	1-12671751066-1-ANAB:AC-1498	RF Power
W,R	E9304A	Power Sensor-Average, 9 kHz to 6 GHz, -60 to +20 dBm	E9304A50011	1-12376650485-1-ANAB:AC-1498	RF Power
W,R	IGUU2916	EMI Calibration Pulse Generator	IGUU2916916187	1-11994623768-1-NMI:PTB	RF Power
W,R	N5230C	PNA-L network analyzer	N5230C02393	1-11202078100-1-ANAB:AC-1498	Attenuation Frequency Reflection Coefficient
W,R	N8487A	Power Sensor - Thermocouple, average, 50MHz to 50GHz	N8487A10001	1-12920287055-1-ANAB:AC-1498	RF Power
W,R	N8487A	Power Sensor - Thermocouple, average, 50MHz to 50GHz	N8487A80008	1-12642273801-1-ANAB:AC-1498	RF Power

Legend

W - Working Standard The calibration equipment used for the calibration of the Model indicated on the first page of the Certificate of calibration.

R - Reference Standard The Reference Standard (Accredited or NMI-calibrated ETE) used to provide traceability to the SI-Units for the calibration parameters listed.

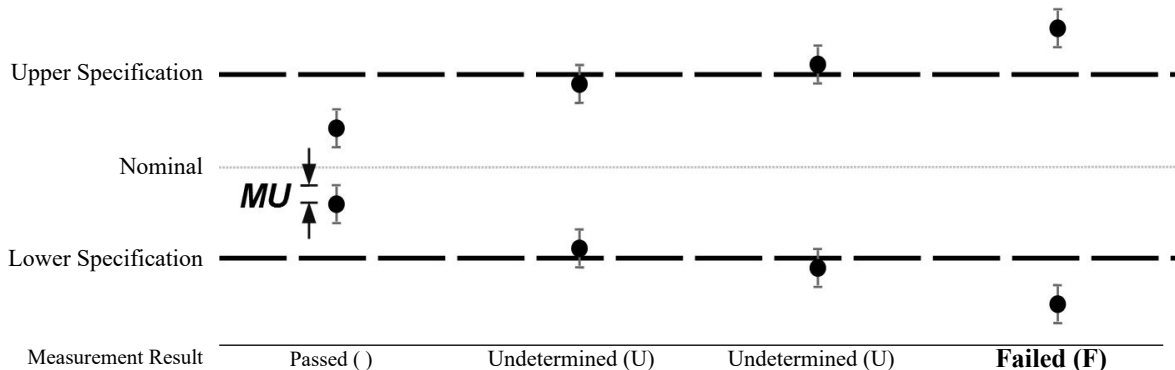
Compliance with Specification

The uncertainty of measurement has been taken into account when determining compliance with specification, as per ILAC-G8:03/2009. If the expanded measurement uncertainty intervals centered about one or more measured values were both in as well as out of specification (upper or lower), it is not possible to state compliance or non-compliance based on a 95% coverage probability for the expanded measurement uncertainty.

An overall statement of compliance for all tests performed as received, and as completed (if any adjustments / repairs were performed) is included at the beginning of this report. Statements of compliance apply only to warranted specifications. When functional verification tests are performed, results are reported in the "Functional Test" section, and do not affect these statements of compliance. The status summaries relate to the tested item only. A final decision about whether the item's performance actually satisfies requirements of the user can only be made by the user.

Measurement results are reported as:

- Passed () - The measured values of the equipment were observed in specification at the points tested. Additionally, the expanded measurement uncertainty intervals about the measured values were in specification.
- Undetermined (U) - The expanded measurement uncertainty intervals about one or more measured values were in as well as out of specification. Consequently, neither compliance nor non-compliance with specification can be declared based on the stated coverage probability.
- Failed (F) - One or more measured values of the equipment were observed out of specification at the points tested. Additionally, the expanded measurement uncertainty intervals about one or more measured values were entirely outside the specification.



() This result is indicated on the measurement report as a blank space in the column labeled "Status" or "Sts".
 MU = 95% expanded measurement uncertainty.

Acceptance Limit

The "Keysight Cal + Uncertainties + Guardbanding" service employs a guard band in the amount of the 95% expanded measurement uncertainty (MU). The resulting acceptance limit applied for Pass or Fail decisions, and for performing adjustments, is the difference of the specification and the guard band.

Uncertainty of Measurement

The uncertainty evaluation has been performed in accordance with ISO/IEC Guide 98-3:2008 (GUM). The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k such that the coverage probability corresponds to approximately 95%. This probability corresponds to a coverage factor of k=2 for a normal distribution.

Calibration Test Results Summary

Test Name	As Completed Status
Frequency Reference Accuracy	Passed
Power Bandwidth Accuracy	Passed
Resolution Bandwidth Switching Uncertainty	Passed
Residual Responses	Passed
Displayed Average Noise Level	Passed
Frequency Readout Accuracy	Passed
Frequency Span Accuracy	Passed
Count Accuracy	Passed
IF Frequency Response	Passed
RBW Selectivity CISPR Bands	Passed
Phase Noise	Passed
Absolute Amplitude Accuracy at 50 MHz	Passed
Input Attenuation Switching Uncertainty	Passed
Display Scale Fidelity	Passed
Freq Resp Above 3.6 GHz Preamp On	Passed
IF Input Gain Accuracy Option EXM	Passed
Spurious Responses	Passed
Freq Resp Above 3.6 GHz Preamp Off	Passed
Second Harmonic Intercept	Passed
Gain Compression	Passed
Third Order Intermodulation Distortion	Passed
Response To Pulses (Peak, Ave, RMS)	Passed
Variation With Pulse Repetition Freq (Ave, RMS)	Passed
Response To Intermittent Disturbances (Ave, RMS)	Passed
Radiated Band Sine Wave Accuracy	Passed
Freq Resp 50 MHz to 3.6 GHz	Passed
Freq Resp 9 kHz to 50 MHz	Passed
Conducted Band Sine Wave Accuracy	Passed
Freq Resp Below 300 kHz	Passed
Response To Pulses (Peak, Ave, RMS) Bands A/B/C/D	Passed
Q-P Detector Absolute Calibration	Passed
Q-P Detector Variation With Pulse Repetition Freq	Passed
Conducted Band VSWR	Passed
Radiated Band VSWR	Passed
LO Output Power Accuracy Option EXM	Passed

Functional Test Results Summary

The following functional test results are not part of an accredited delivery, even if they are part of an otherwise accredited calibration report.

The following tests document the functional verification of the instruments' non-warranted performance. Neither a statement of conformance or decision rule is used for a Functional Test, measurement uncertainties are only provided by exception. For a "Functional Test" the test results are reported as "As Expected" when showing expected performance and "Not As Expected" otherwise. "As Expected" results of individual test points are indicated in the measurement report by a blank space in the column labeled "Status" to allow easier recognition of any "Not As Expected" points. If a functional test result is reported as "Not As Expected", repair and/or adjustment is

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ISO/IEC 17025:2017 and ANSI/NCSL Z540.3-2006

Certificate Number 1-13646873990-1



recommended. Test results reported as “Done” are possible if no limits are applied. For qualitative or quantitative “Functional Tests” the test results are not warranted, and no judgment is made. The “actual” measured results are helpful to users for some applications.

<u>Test Name</u>	<u>As Completed Status</u>
Internal Alignment	As Expected
MIL STD RBW Selectivity	As Expected
Displayed Average Noise Level RF2	As Expected
Effective DANL Option NFE	As Expected

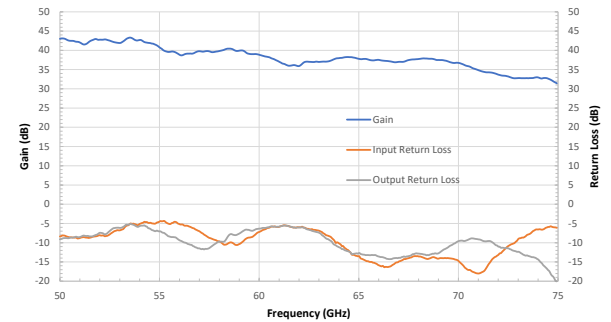
Tested Configuration

Firmware Version	A.19.55
Tested Options	544 B24 CR3 DP2 EDP EMC EXM LSN NFE P44 PC4 PFR SSD W7X

Eravant	SBL-5037533550-1515-E1(06648-01) Raw Test Data				50 - 75 GHz Pre-Amplifier						
Gain	Input Return Loss	Output Return Loss	Gain Ref:	35	Freq	Gain	Input Return Loss	Output Return Loss			
5000000000	7.982	5000000000	-8.378	5000000000	-9.125	Tested By: LB	50	42.982	-8.378		
50062344140	8.084	50062344140	-8.281	50062344140	-9.018	Date:	9/14/2020	50.06234	43.084	-8.281	-9.018
50124688279	8.103	50124688279	-8.13	50124688279	-8.897			50.12469	43.103	-8.13	-8.897
50187032419	8.072	50187032419	-8.119	50187032419	-8.806			50.18703	43.072	-8.119	-8.806
50249376559	7.993	50249376559	-8.183	50249376559	-8.795			50.24938	42.993	-8.183	-8.795
50311720698	7.842	50311720698	-8.325	50311720698	-8.779			50.31172	42.842	-8.325	-8.779
50374064838	7.674	50374064838	-8.435	50374064838	-8.825			50.37406	42.674	-8.435	-8.825
50436408978	7.548	50436408978	-8.537	50436408978	-8.828			50.43641	42.548	-8.537	-8.828
50498753117	7.488	50498753117	-8.592	50498753117	-8.732			50.49875	42.488	-8.592	-8.732
50561097257	7.471	50561097257	-8.595	50561097257	-8.641			50.56111	42.471	-8.595	-8.641
50623441397	7.468	50623441397	-8.641	50623441397	-8.68			50.62344	42.468	-8.641	-8.68
50685785536	7.441	50685785536	-8.652	50685785536	-8.61			50.68579	42.441	-8.652	-8.61
50748129676	7.328	50748129676	-8.682	50748129676	-8.531			50.74813	42.328	-8.682	-8.531
50810473815	7.242	50810473815	-8.638	50810473815	-8.44			50.81047	42.242	-8.638	-8.44
50872817955	7.221	50872817955	-8.885	50872817955	-8.528			50.87282	42.221	-8.885	-8.528
50935162095	7.18	50935162095	-8.861	50935162095	-8.575			50.93516	42.18	-8.861	-8.575
50997506234	7.045	50997506234	-8.79	50997506234	-8.529			50.99751	42.045	-8.79	-8.529
51059850374	6.87	51059850374	-8.654	51059850374	-8.415			51.05985	41.87	-8.654	-8.415
51122194514	6.666	51122194514	-8.591	51122194514	-8.259			51.12219	41.666	-8.591	-8.259
51184538653	6.532	51184538653	-8.545	51184538653	-8.144			51.18454	41.532	-8.545	-8.144
51246882793	6.534	51246882793	-8.599	51246882793	-8.196			51.24688	41.534	-8.599	-8.196
51309226933	6.639	51309226933	-8.668	51309226933	-8.262			51.30923	41.639	-8.668	-8.262
51371571072	6.825	51371571072	-8.672	51371571072	-8.227			51.37157	41.825	-8.672	-8.227
51433915212	7.097	51433915212	-8.757	51433915212	-8.268			51.43392	42.097	-8.757	-8.268
51496259352	7.336	51496259352	-8.702	51496259352	-8.369			51.49626	42.336	-8.702	-8.369
51558603491	7.515	51558603491	-8.63	51558603491	-8.347			51.55860	42.515	-8.63	-8.347
51620947631	7.641	51620947631	-8.495	51620947631	-8.366			51.62095	42.641	-8.495	-8.366
51683291771	7.765	51683291771	-8.419	51683291771	-8.232			51.68329	42.765	-8.419	-8.232
51745635910	7.899	51745635910	-8.367	51745635910	-8.095			51.74564	42.899	-8.367	-8.095
51807980050	7.94	51807980050	-8.33	51807980050	-7.968			51.80798	42.94	-8.33	-7.968
51870324190	7.822	51870324190	-8.262	51870324190	-7.863			51.87032	42.822	-8.262	-7.863
51932668329	7.729	51932668329	-8.125	51932668329	-7.625			51.93267	42.729	-8.125	-7.625
51995012469	7.767	51995012469	-8.045	51995012469	-7.424			51.99501	42.767	-8.045	-7.424
52057356608	7.767	52057356608	-8.149	52057356608	-7.446			52.05736	42.767	-8.149	-7.446
52119700748	7.756	52119700748	-8.125	52119700748	-7.493			52.11970	42.756	-8.125	-7.493
52182044888	7.784	52182044888	-8.111	52182044888	-7.619			52.18204	42.784	-8.111	-7.619
52244389027	7.836	52244389027	-8.309	52244389027	-7.861			52.24439	42.836	-8.309	-7.861
52306733167	7.812	52306733167	-8.254	52306733167	-7.743			52.30673	42.812	-8.254	-7.743
52369077307	7.713	52369077307	-8.216	52369077307	-7.562			52.36908	42.713	-8.216	-7.562
52431421446	7.617	52431421446	-8.05	52431421446	-7.251			52.43142	42.617	-8.05	-7.251
52493765586	7.532	52493765586	-7.858	52493765586	-6.979			52.49377	42.532	-7.858	-6.979
52556109726	7.411	52556109726	-7.594	52556109726	-6.702			52.55611	42.411	-7.594	-6.702
52618453865	7.292	52618453865	-7.391	52618453865	-6.452			52.61845	42.292	-7.391	-6.452
52680798005	7.185	52680798005	-7.168	52680798005	-6.237			52.6808	42.185	-7.168	-6.237
52743142145	7.097	52743142145	-6.969	52743142145	-6.183			52.74314	42.097	-6.969	-6.183
52805486284	7.034	52805486284	-6.897	52805486284	-6.119			52.80549	42.034	-6.897	-6.119
52867830424	6.977	52867830424	-6.749	52867830424	-6.101			52.86783	41.977	-6.749	-6.101
52930174564	6.932	52930174564	-6.776	52930174564	-6.092			52.93017	41.932	-6.776	-6.092
52992518703	6.905	52992518703	-6.792	52992518703	-6.141			52.99252	41.905	-6.792	-6.141
53054862843	6.952	53054862843	-6.705	53054862843	-6.136			53.05486	41.952	-6.705	-6.136
53117206983	7.136	53117206983	-6.565	53117206983	-6.037			53.11721	42.136	-6.565	-6.037
53179551122	7.342	53179551122	-6.438	53179551122	-5.867			53.17955	42.342	-6.438	-5.867
53241895262	7.572	53241895262	-6.051	53241895262	-5.655			53.2419	42.572	-6.051	-5.655
53304239401	7.842	53304239401	-5.716	53304239401	-5.37			53.30424	42.842	-5.716	-5.37
53366583541	8.067	53366583541	-5.527	53366583541	-5.318			53.36658	43.067	-5.527	-5.318
53428927681	8.198	53428927681	-5.469	53428927681	-5.337			53.42893	43.198	-5.469	-5.337
53491271820	8.3	53491271820	-5.2	53491271820	-5.203			53.49127	43.3	-5.2	-5.203
53553615960	8.284	53553615960	-4.985	53553615960	-5.1			53.55362	43.284	-4.985	-5.1
53615960100	8.166	53615960100	-5.128	53615960100	-5.243			53.61596	43.166	-5.128	-5.243
53678304239	7.981	53678304239	-5.032	53678304239	-5.31			53.67830	42.981	-5.032	-5.31
53740648379	7.765	53740648379	-5.163	53740648379	-5.474			53.74065	42.765	-5.163	-5.474
53802992519	7.622	53802992519	-5.235	53802992519	-5.652			53.80299	42.622	-5.235	-5.652
53865336658	7.554	53865336658	-5.416	53865336658	-5.828			53.86534	42.554	-5.416	-5.828
53927680798	7.606	53927680798	-5.408	53927680798	-5.875			53.92768	42.606	-5.408	-5.875
53990024938	7.676	53990024938	-5.153	53990024938	-5.694			53.99002	42.676	-5.153	-5.694
54052369077	7.699	54052369077	-5.015	54052369077	-5.586			54.05237	42.699	-5.015	-5.586
54114713217	7.556	54114713217	-4.881	54114713217	-5.559			54.11471	42.556	-4.881	-5.559
54177057357	7.342	54177057357	-4.788	54177057357	-5.565			54.17706	42.342	-4.788	-5.565
54239401496	7.15	54239401496	-4.56	54239401496	-5.496			54.2394	42.15	-4.56	-5.496
54301745636	7.059	54301745636	-4.658	54301745636	-5.729			54.30175	42.059	-4.658	-5.729
54364089776	7.004	54364089776	-4.623	54364089776	-5.821			54.36409	42.004	-4.623	-5.821
54426433915	6.944	54426433915	-4.832	54426433915	-6.194			54.42643	41.944	-4.832	-6.194

5.934

Gain and Return Loss vs. Frequency
Bias: +8 V_{DC}/151 mA



54488778055	6.917	54488778055	-4.859	54488778055	-6.273	54.48878	41.917	-4.859	-6.273
54551122195	6.856	54551122195	-4.818	54551122195	-6.457	54.55112	41.856	-4.818	-6.457
54613466334	6.757	54613466334	-4.972	54613466334	-6.696	54.61347	41.757	-4.972	-6.696
54675810474	6.727	54675810474	-4.999	54675810474	-6.787	54.67581	41.727	-4.999	-6.787
54738154613	6.584	54738154613	-5.059	54738154613	-6.943	54.73815	41.584	-5.059	-6.943
54800498753	6.449	54800498753	-4.999	54800498753	-6.999	54.80005	41.449	-4.999	-6.999
54862842893	6.288	54862842893	-4.768	54862842893	-6.85	54.86284	41.288	-4.768	-6.85
54925187032	6.076	54925187032	-4.675	54925187032	-6.985	54.92519	41.076	-4.675	-6.985
54987531172	5.812	54987531172	-4.541	54987531172	-7.056	54.98753	40.812	-4.541	-7.056
55049875312	5.582	55049875312	-4.367	55049875312	-7.05	55.04988	40.582	-4.367	-7.05
55112219451	5.386	55112219451	-4.445	55112219451	-7.276	55.11222	40.386	-4.445	-7.276
55174563591	5.087	55174563591	-4.386	55174563591	-7.41	55.17456	40.087	-4.386	-7.41
55236907731	4.895	55236907731	-4.342	55236907731	-7.479	55.23691	39.895	-4.342	-7.479
55299251870	4.762	55299251870	-4.62	55299251870	-7.743	55.29925	39.762	-4.62	-7.743
55361596010	4.666	55361596010	-4.842	55361596010	-7.976	55.3616	39.666	-4.842	-7.976
55423940150	4.587	55423940150	-5.008	55423940150	-8.271	55.42394	39.587	-5.008	-8.271
55486284289	4.59	55486284289	-5.12	55486284289	-8.369	55.48628	39.59	-5.12	-8.369
55548628429	4.628	55548628429	-5.13	55548628429	-8.476	55.54863	39.628	-5.13	-8.476
55610972569	4.691	55610972569	-4.897	55610972569	-8.537	55.61097	39.691	-4.897	-8.537
55673316708	4.683	55673316708	-4.823	55673316708	-8.526	55.67332	39.683	-4.823	-8.526
55735660848	4.603	55735660848	-4.584	55735660848	-8.572	55.73566	39.603	-4.584	-8.572
55798004988	4.483	55798004988	-4.587	55798004988	-8.603	55.798	39.483	-4.587	-8.603
55860349127	4.304	55860349127	-4.73	55860349127	-8.825	55.86035	39.304	-4.73	-8.825
55922693267	4.12	55922693267	-5.018	55922693267	-9.08	55.92269	39.12	-5.018	-9.08
55985037406	3.906	55985037406	-5.125	55985037406	-9.311	55.98504	38.906	-5.125	-9.311
56047381546	3.741	56047381546	-5.266	56047381546	-9.473	56.04738	38.741	-5.266	-9.473
56109725686	3.697	56109725686	-5.249	56109725686	-9.586	56.10973	38.697	-5.249	-9.586
56172069825	3.777	56172069825	-5.296	56172069825	-9.778	56.17207	38.777	-5.296	-9.778
56234413965	3.927	56234413965	-5.531	56234413965	-9.926	56.23441	38.927	-5.531	-9.926
56296758105	4.056	56296758105	-5.582	56296758105	-9.998	56.29676	39.056	-5.582	-9.998
56359102244	4.117	56359102244	-5.57	56359102244	-10.129	56.3591	39.117	-5.57	-10.129
56421446384	4.145	56421446384	-5.638	56421446384	-10.335	56.42145	39.145	-5.638	-10.335
56483790524	4.14	56483790524	-5.787	56483790524	-10.404	56.48379	39.14	-5.787	-10.404
56546134663	4.167	56546134663	-5.889	56546134663	-10.534	56.54613	39.167	-5.889	-10.534
56608478803	4.128	56608478803	-6.059	56608478803	-10.569	56.60848	39.128	-6.059	-10.569
56670822943	4.172	56670822943	-6.197	56670822943	-10.844	56.67082	39.172	-6.197	-10.844
56733167082	4.294	56733167082	-6.29	56733167082	-10.971	56.73317	39.294	-6.29	-10.971
56795511222	4.469	56795511222	-6.537	56795511222	-11.187	56.79551	39.469	-6.537	-11.187
56857855362	4.615	56857855362	-6.674	56857855362	-11.261	56.85786	39.615	-6.674	-11.261
56920199501	4.73	56920199501	-6.853	56920199501	-11.467	56.9202	39.73	-6.853	-11.467
56982543641	4.771	56982543641	-6.976	56982543641	-11.445	56.98254	39.771	-6.976	-11.445
57044887781	4.752	57044887781	-7.193	57044887781	-11.574	57.04489	39.752	-7.193	-11.574
57107231920	4.699	57107231920	-7.438	57107231920	-11.682	57.10723	39.699	-7.438	-11.682
57169576060	4.655	57169576060	-7.605	57169576060	-11.593	57.16958	39.655	-7.605	-11.593
57231920200	4.691	57231920200	-7.886	57231920200	-11.742	57.23192	39.691	-7.886	-11.742
57294264339	4.763	57294264339	-8.07	57294264339	-11.588	57.29426	39.763	-8.07	-11.588
57356608479	4.804	57356608479	-8.284	57356608479	-11.613	57.35661	39.804	-8.284	-11.613
57418952618	4.81	57418952618	-8.509	57418952618	-11.561	57.41895	39.81	-8.509	-11.561
57481296758	4.757	57481296758	-8.712	57481296758	-11.434	57.4813	39.757	-8.712	-11.434
57543640898	4.664	57543640898	-8.809	57543640898	-11.215	57.54364	39.664	-8.809	-11.215
57605985037	4.546	57605985037	-8.93	57605985037	-10.973	57.60599	39.546	-8.93	-10.973
57668329177	4.524	57668329177	-9.073	57668329177	-10.732	57.66833	39.524	-9.073	-10.732
57730673317	4.559	57730673317	-9.196	57730673317	-10.49	57.73067	39.559	-9.196	-10.49
57793017456	4.625	57793017456	-9.295	57793017456	-10.281	57.79302	39.625	-9.295	-10.281
57855361596	4.686	57855361596	-9.405	57855361596	-10.07	57.85536	39.686	-9.405	-10.07
57917705736	4.727	57917705736	-9.624	57917705736	-9.846	57.91771	39.727	-9.624	-9.846
57980049875	4.798	57980049875	-9.605	57980049875	-9.742	57.98005	39.798	-9.605	-9.742
58042394015	4.873	58042394015	-9.789	58042394015	-9.723	58.04239	39.873	-9.789	-9.723
58104738155	4.944	58104738155	-9.976	58104738155	-9.72	58.10474	39.944	-9.976	-9.72
58167082294	5.026	58167082294	-10.25	58167082294	-9.75	58.16708	40.026	-10.25	-9.75
58229426434	5.117	58229426434	-10.503	58229426434	-9.717	58.22943	40.117	-10.503	-9.717
58291770574	5.258	58291770574	-10.506	58291770574	-9.473	58.29177	40.258	-10.506	-9.473
58354114713	5.364	58354114713	-10.446	58354114713	-9.004	58.35411	40.364	-10.446	-9.004
58416458853	5.438	58416458853	-10.253	58416458853	-8.487	58.41646	40.438	-10.253	-8.487
58478802993	5.435	58478802993	-10.064	58478802993	-8.059	58.4788	40.435	-10.064	-8.059
58541147132	5.444	58541147132	-9.921	58541147132	-7.817	58.54115	40.444	-9.921	-7.817
58603491272	5.389	58603491272	-9.924	58603491272	-7.754	58.60349	40.389	-9.924	-7.754
58665835411	5.295	58665835411	-10.053	58665835411	-7.881	58.66584	40.295	-10.053	-7.881
58728179551	5.115	58728179551	-10.259	58728179551	-7.979	58.72818	40.115	-10.259	-7.979
58790523691	4.949	58790523691	-10.512	58790523691	-8.023	58.79052	39.949	-10.512	-8.023
58852867830	4.847	58852867830	-10.591	58852867830	-7.993	58.85287	39.847	-10.591	-7.993
58915211970	4.84	58915211970	-10.569	58915211970	-7.842	58.91521	39.84	-10.569	-7.842
58977556110	4.889	58977556110	-10.399	58977556110	-7.691	58.97756	39.889	-10.399	-7.691
59039900249	4.947	59039900249	-10.264	59039900249	-7.504	59.0399	39.947	-10.264	-7.504

59102244389	4.977	59102244389	-10.031	59102244389	-7.287	59.10224	39.977	-10.031	-7.287
59164588529	4.957	59164588529	-9.767	59164588529	-7.051	59.16459	39.957	-9.767	-7.051
59226932668	4.85	59226932668	-9.492	59226932668	-6.861	59.22693	39.85	-9.492	-6.861
59289276808	4.644	59289276808	-9.149	59289276808	-6.672	59.28928	39.644	-9.149	-6.672
59351620948	4.381	59351620948	-8.927	59351620948	-6.59	59.35162	39.381	-8.927	-6.59
59413965087	4.191	59413965087	-8.748	59413965087	-6.642	59.41397	39.191	-8.748	-6.642
59476309227	4.109	59476309227	-8.668	59476309227	-6.663	59.47631	39.109	-8.668	-6.663
59538653367	4.046	59538653367	-8.641	59538653367	-6.787	59.53865	39.046	-8.641	-6.787
59600997506	4.013	59600997506	-8.564	59600997506	-6.872	59.601	39.013	-8.564	-6.872
59663341646	4.013	59663341646	-8.465	59663341646	-6.899	59.66334	39.013	-8.465	-6.899
59725685786	4.011	59725685786	-8.216	59725685786	-6.774	59.72569	39.011	-8.216	-6.774
59788029925	4.037	59788029925	-7.96	59788029925	-6.617	59.78803	39.037	-7.96	-6.617
59850374065	4.024	59850374065	-7.668	59850374065	-6.457	59.85037	39.024	-7.668	-6.457
59912718204	3.967	59912718204	-7.391	59912718204	-6.421	59.91272	38.967	-7.391	-6.421
59975062344	3.897	59975062344	-7.254	59975062344	-6.356	59.97506	38.897	-7.254	-6.356
60037406484	3.787	60037406484	-7.119	60037406484	-6.331	60.03741	38.787	-7.119	-6.331
60099750623	3.708	60099750623	-6.949	60099750623	-6.287	60.09975	38.708	-6.949	-6.287
60162094763	3.606	60162094763	-6.754	60162094763	-6.166	60.16209	38.606	-6.754	-6.166
60224438903	3.522	60224438903	-6.617	60224438903	-6.15	60.22444	38.522	-6.617	-6.15
60286783042	3.422	60286783042	-6.523	60286783042	-6.155	60.28678	38.422	-6.523	-6.155
60349127182	3.37	60349127182	-6.381	60349127182	-6.114	60.34913	38.37	-6.381	-6.114
60411471322	3.307	60411471322	-6.175	60411471322	-6.015	60.41147	38.307	-6.175	-6.015
60473815461	3.239	60473815461	-6.144	60473815461	-5.976	60.47382	38.239	-6.144	-5.976
60536159601	3.142	60536159601	-6.029	60536159601	-5.853	60.53616	38.142	-6.029	-5.853
60598503741	2.969	60598503741	-5.84	60598503741	-5.771	60.5985	37.969	-5.84	-5.771
60660847880	2.845	60660847880	-5.809	60660847880	-5.76	60.66085	37.845	-5.809	-5.76
60723192020	2.746	60723192020	-5.829	60723192020	-5.829	60.72319	37.746	-5.829	-5.829
60785536160	2.598	60785536160	-5.754	60785536160	-5.823	60.78554	37.598	-5.754	-5.823
60847880299	2.428	60847880299	-5.892	60847880299	-5.867	60.84788	37.428	-5.892	-5.867
60910224439	2.294	60910224439	-5.897	60910224439	-5.836	60.91022	37.294	-5.897	-5.836
60972568579	2.128	60972568579	-5.927	60972568579	-5.842	60.97257	37.128	-5.927	-5.842
61034912718	1.947	61034912718	-5.792	61034912718	-5.779	61.03491	36.947	-5.792	-5.779
61097256858	1.785	61097256858	-5.683	61097256858	-5.711	61.09726	36.785	-5.683	-5.711
61159600998	1.585	61159600998	-5.593	61159600998	-5.647	61.1596	36.585	-5.593	-5.647
61221945137	1.508	61221945137	-5.48	61221945137	-5.56	61.22195	36.508	-5.48	-5.56
61284289277	1.414	61284289277	-5.471	61284289277	-5.559	61.28429	36.414	-5.471	-5.559
61346633416	1.247	61346633416	-5.549	61346633416	-5.557	61.34663	36.247	-5.549	-5.557
61408977556	1.11	61408977556	-5.6	61408977556	-5.614	61.40898	36.11	-5.6	-5.614
61471321696	1.006	61471321696	-5.642	61471321696	-5.714	61.47132	36.006	-5.642	-5.714
61533665835	1.002	61533665835	-5.798	61533665835	-5.771	61.53367	36.002	-5.798	-5.771
61596009975	1.036	61596009975	-5.908	61596009975	-5.847	61.59601	36.036	-5.908	-5.847
61658354115	1.101	61658354115	-5.966	61658354115	-5.93	61.65835	36.101	-5.966	-5.93
61720698254	1.161	61720698254	-6.072	61720698254	-6.026	61.7207	36.161	-6.072	-6.026
61783042394	1.148	61783042394	-6.034	61783042394	-6.051	61.78304	36.148	-6.034	-6.051
61845386534	1.066	61845386534	-6.092	61845386534	-6.1	61.84539	36.066	-6.092	-6.1
61907730673	0.959	61907730673	-5.968	61907730673	-6.051	61.90773	35.959	-5.968	-6.051
61970074813	0.898	61970074813	-5.979	61970074813	-6.04	61.97007	35.898	-5.979	-6.04
62032418953	0.981	62032418953	-5.985	62032418953	-6.023	62.03242	35.981	-5.985	-6.023
62094763092	1.2	62094763092	-5.99	62094763092	-6.004	62.09476	36.2	-5.99	-6.004
62157107232	1.486	62157107232	-5.82	62157107232	-5.987	62.15711	36.486	-5.82	-5.987
62219451372	1.772	62219451372	-6.057	62219451372	-6.046	62.21945	36.772	-6.057	-6.046
62281795511	1.961	62281795511	-6.079	62281795511	-6.172	62.2818	36.961	-6.079	-6.172
62344139651	2.036	62344139651	-6.232	62344139651	-6.372	62.34414	37.036	-6.232	-6.372
62406483791	2.063	62406483791	-6.37	62406483791	-6.524	62.40648	37.063	-6.37	-6.524
62468827930	2.033	62468827930	-6.391	62468827930	-6.589	62.46883	37.033	-6.391	-6.589
62531172070	2.008	62531172070	-6.507	62531172070	-6.691	62.53117	37.008	-6.507	-6.691
62593516209	1.994	62593516209	-6.512	62593516209	-6.765	62.59352	36.994	-6.512	-6.765
62655860349	1.972	62655860349	-6.48	62655860349	-6.919	62.65586	36.972	-6.48	-6.919
62718204489	1.963	62718204489	-6.656	62718204489	-7.007	62.7182	36.963	-6.656	-7.007
62780548628	1.98	62780548628	-6.655	62780548628	-7.089	62.78055	36.98	-6.655	-7.089
62842892768	2.054	62842892768	-6.708	62842892768	-7.175	62.84289	37.054	-6.708	-7.175
62905236908	2.049	62905236908	-6.776	62905236908	-7.248	62.90524	37.049	-6.776	-7.248
62967581047	1.992	62967581047	-6.828	62967581047	-7.325	62.96758	36.992	-6.828	-7.325
63029925187	1.992	63029925187	-6.935	63029925187	-7.482	63.02993	36.992	-6.935	-7.482
63092269327	2.025	63092269327	-7.098	63092269327	-7.669	63.09227	37.025	-7.098	-7.669
63154613466	2.049	63154613466	-7.246	63154613466	-8.034	63.15461	37.049	-7.246	-8.034
63216957606	2.074	63216957606	-7.545	63216957606	-8.253	63.21696	37.074	-7.545	-8.253
63279301746	2.068	63279301746	-7.704	63279301746	-8.517	63.2793	37.068	-7.704	-8.517
63341645885	2.06	63341645885	-7.981	63341645885	-8.825	63.34165	37.06	-7.981	-8.825
63403990025	2.088	63403990025	-8.106	63403990025	-9.018	63.40399	37.088	-8.106	-9.018
63466334165	2.132	63466334165	-8.199	63466334165	-9.1	63.46633	37.132	-8.199	-9.1
63528678304	2.206	63528678304	-8.339	63528678304	-9.341	63.52868	37.206	-8.339	-9.341
63591022444	2.323	63591022444	-8.488	63591022444	-9.515	63.59102	37.323	-8.488	-9.515
63653366584	2.448	63653366584	-8.82	63653366584	-9.784	63.65337	37.448	-8.82	-9.784

63715710723	2.601	63715710723	-9.124	63715710723	-10.28	63.71571	37.601	-9.124	-10.28
63778054863	2.73	63778054863	-9.476	63778054863	-10.517	63.77805	37.73	-9.476	-10.517
63840399002	2.856	63840399002	-10.056	63840399002	-10.666	63.8404	37.856	-10.056	-10.666
63902743142	2.934	63902743142	-9.899	63902743142	-10.907	63.90274	37.934	-9.899	-10.907
63965087282	2.947	63965087282	-10.011	63965087282	-11.061	63.96509	37.947	-10.011	-11.061
64027431421	2.996	64027431421	-10.258	64027431421	-11.228	64.02743	37.996	-10.258	-11.228
64089775561	3.035	64089775561	-10.44	64089775561	-11.352	64.08978	38.035	-10.44	-11.352
64152119701	3.048	64152119701	-10.899	64152119701	-11.674	64.15212	38.048	-10.899	-11.674
64214463840	3.118	64214463840	-10.88	64214463840	-11.635	64.21446	38.118	-10.88	-11.635
64276807980	3.189	64276807980	-11.291	64276807980	-11.915	64.27681	38.189	-11.291	-11.915
64339152120	3.23	64339152120	-11.509	64339152120	-12.017	64.33915	38.23	-11.509	-12.017
64401496259	3.252	64401496259	-11.786	64401496259	-12.145	64.4015	38.252	-11.786	-12.145
64463840399	3.258	64463840399	-11.92	64463840399	-12.22	64.46384	38.258	-11.92	-12.22
64526184539	3.233	64526184539	-12.283	64526184539	-12.357	64.52618	38.233	-12.283	-12.357
64588528678	3.228	64588528678	-12.599	64588528678	-12.555	64.58853	38.228	-12.599	-12.555
64650872818	3.211	64650872818	-13.104	64650872818	-12.994	64.65087	38.211	-13.104	-12.994
64713216958	3.139	64713216958	-13.137	64713216958	-12.915	64.71322	38.139	-13.137	-12.915
64775561097	3.09	64775561097	-13.201	64775561097	-12.863	64.77556	38.09	-13.201	-12.863
64837905237	3.016	64837905237	-13.379	64837905237	-12.805	64.83791	38.016	-13.379	-12.805
64900249377	2.919	64900249377	-13.428	64900249377	-12.764	64.90025	37.919	-13.428	-12.764
64962593516	2.837	64962593516	-13.547	64962593516	-12.838	64.96259	37.837	-13.547	-12.838
65024937656	2.766	65024937656	-13.5	65024937656	-12.651	65.02494	37.766	-13.5	-12.651
65087281796	2.714	65087281796	-14.052	65087281796	-12.91	65.08728	37.714	-14.052	-12.91
65149625935	2.705	65149625935	-14.181	65149625935	-13.011	65.14963	37.705	-14.181	-13.011
65211970075	2.755	65211970075	-14.319	65211970075	-13.091	65.21197	37.755	-14.319	-13.091
65274314214	2.769	65274314214	-14.472	65274314214	-13.107	65.27431	37.769	-14.472	-13.107
65336658354	2.774	65336658354	-14.643	65336658354	-13.212	65.33666	37.774	-14.643	-13.212
65399002494	2.722	65399002494	-14.793	65399002494	-13.206	65.399	37.722	-14.793	-13.206
65461346633	2.626	65461346633	-14.802	65461346633	-13.206	65.46135	37.626	-14.802	-13.206
65523690773	2.532	65523690773	-14.945	65523690773	-13.233	65.52369	37.532	-14.945	-13.233
65586034913	2.447	65586034913	-15.003	65586034913	-13.245	65.58603	37.447	-15.003	-13.245
65648379052	2.403	65648379052	-15.002	65648379052	-13.181	65.64838	37.403	-15.002	-13.181
65710723192	2.384	65710723192	-15.189	65710723192	-13.217	65.71072	37.384	-15.189	-13.217
65773067332	2.398	65773067332	-15.214	65773067332	-13.217	65.77307	37.398	-15.214	-13.217
65835411471	2.461	65835411471	-15.373	65835411471	-13.208	65.83541	37.461	-15.373	-13.208
65897755611	2.496	65897755611	-15.497	65897755611	-13.388	65.89776	37.496	-15.497	-13.388
65960099751	2.538	65960099751	-15.755	65960099751	-13.53	65.9601	37.538	-15.755	-13.53
66022443890	2.502	66022443890	-15.9	66022443890	-13.607	66.02244	37.502	-15.9	-13.607
66084788030	2.43	66084788030	-16.038	66084788030	-13.717	66.08479	37.43	-16.038	-13.717
66147132170	2.367	66147132170	-16.145	66147132170	-13.725	66.14713	37.367	-16.145	-13.725
66209476309	2.326	66209476309	-16.008	66209476309	-13.772	66.20948	37.326	-16.008	-13.772
66271820449	2.291	66271820449	-16.364	66271820449	-13.887	66.27182	37.291	-16.364	-13.887
66334164589	2.264	66334164589	-16.277	66334164589	-13.992	66.33416	37.264	-16.277	-13.992
66396508728	2.244	66396508728	-16.29	66396508728	-14.172	66.39651	37.244	-16.29	-14.172
66458852868	2.216	66458852868	-16.321	66458852868	-14.214	66.45885	37.216	-16.321	-14.214
66521197007	2.165	66521197007	-16.236	66521197007	-14.272	66.5212	37.165	-16.236	-14.272
66583541147	2.123	66583541147	-16.161	66583541147	-14.252	66.58354	37.123	-16.161	-14.252
66645885287	2.06	66645885287	-15.958	66645885287	-14.241	66.64589	37.06	-15.958	-14.241
66708229426	1.989	66708229426	-15.727	66708229426	-14.099	66.70823	36.989	-15.727	-14.099
66770573566	1.923	66770573566	-15.558	66770573566	-14.022	66.77057	36.923	-15.558	-14.022
66832917706	1.9	66832917706	-15.285	66832917706	-13.989	66.83292	36.9	-15.285	-13.989
66895261845	1.925	66895261845	-15.118	66895261845	-13.967	66.89526	36.925	-15.118	-13.967
66957605985	1.975	66957605985	-15.09	66957605985	-14.008	66.95761	36.975	-15.09	-14.008
67019950125	2.013	67019950125	-14.848	67019950125	-13.901	67.01995	37.013	-14.848	-13.901
67082294264	2.016	67082294264	-14.769	67082294264	-13.948	67.08229	37.016	-14.769	-13.948
67144638404	2.005	67144638404	-14.626	67144638404	-13.753	67.14464	37.005	-14.626	-13.753
67206982544	2.002	67206982544	-14.475	67206982544	-13.689	67.20698	37.002	-14.475	-13.689
67269326683	2.058	67269326683	-14.239	67269326683	-13.566	67.26933	37.058	-14.239	-13.566
67331670823	2.157	67331670823	-14.263	67331670823	-13.686	67.33167	37.157	-14.263	-13.686
67394014963	2.296	67394014963	-14.145	67394014963	-13.58	67.39401	37.296	-14.145	-13.58
67456359102	2.412	67456359102	-14.06	67456359102	-13.535	67.45636	37.412	-14.06	-13.535
67518703242	2.488	67518703242	-13.984	67518703242	-13.462	67.5187	37.488	-13.984	-13.462
67581047382	2.552	67581047382	-13.87	67581047382	-13.381	67.58105	37.552	-13.87	-13.381
67643391521	2.601	67643391521	-13.805	67643391521	-13.217	67.64339	37.601	-13.805	-13.217
67705735661	2.634	67705735661	-13.599	67705735661	-12.975	67.70574	37.634	-13.599	-12.975
67768079800	2.642	67768079800	-13.511	67768079800	-12.953	67.76808	37.642	-13.511	-12.953
67830423940	2.667	67830423940	-13.475	67830423940	-12.821	67.83042	37.667	-13.475	-12.821
67892768080	2.695	67892768080	-13.505	67892768080	-12.758	67.89277	37.695	-13.505	-12.758
67955112219	2.714	67955112219	-13.486	67955112219	-12.813	67.95511	37.714	-13.486	-12.813
68017456359	2.755	68017456359	-13.587	68017456359	-12.829	68.01746	37.755	-13.587	-12.829
68079800499	2.796	68079800499	-13.577	68079800499	-12.884	68.0798	37.796	-13.577	-12.884
68142144638	2.848	68142144638	-13.684	68142144638	-12.912	68.14214	37.848	-13.684	-12.912
68204488778	2.887	68204488778	-13.8	68204488778	-12.97	68.20449	37.887	-13.8	-12.97
68266832918	2.906	68266832918	-13.926	68266832918	-13.061	68.26683	37.906	-13.926	-13.061

68329177057	2.878	68329177057	-14.063	68329177057	-13.088
68391521197	2.878	68391521197	-14.167	68391521197	-13.247
68453865337	2.849	68453865337	-14.236	68453865337	-13.187
68516209476	2.818	68516209476	-14.143	68516209476	-13.223
68578553616	2.809	68578553616	-14.039	68578553616	-13.064
68640897756	2.815	68640897756	-13.895	68640897756	-12.983
68703241895	2.783	68703241895	-13.769	68703241895	-12.854
68765586035	2.711	68765586035	-13.758	68765586035	-12.876
68827930175	2.62	68827930175	-13.873	68827930175	-12.747
68890274314	2.505	68890274314	-14	68890274314	-12.821
68952618454	2.483	68952618454	-14.142	68952618454	-12.821
69014962594	2.492	69014962594	-14.107	69014962594	-12.701
69077306733	2.472	69077306733	-14.003	69077306733	-12.484
69139650873	2.477	69139650873	-14	69139650873	-12.234
69201995012	2.461	69201995012	-14.011	69201995012	-12.003
69264339152	2.403	69264339152	-14.021	69264339152	-11.772
69326683292	2.337	69326683292	-13.97	69326683292	-11.641
69389027431	2.28	69389027431	-14.024	69389027431	-11.467
69451371571	2.17	69451371571	-13.986	69451371571	-11.292
69513715711	2.06	69513715711	-14.024	69513715711	-11.052
69576059850	1.928	69576059850	-14.063	69576059850	-10.811
69638403990	1.846	69638403990	-14.104	69638403990	-10.668
69700748130	1.764	69700748130	-14.159	69700748130	-10.506
69763092269	1.717	69763092269	-14.219	69763092269	-10.275
69825436409	1.72	69825436409	-14.354	69825436409	-10.154
69887780549	1.771	69887780549	-14.42	69887780549	-9.907
69950124688	1.772	69950124688	-14.538	69950124688	-9.715
70012468828	1.725	70012468828	-14.777	70012468828	-9.57
70074812968	1.661	70074812968	-15.112	70074812968	-9.495
70137157107	1.544	70137157107	-15.398	70137157107	-9.457
70199501247	1.428	70199501247	-15.708	70199501247	-9.467
70261845387	1.294	70261845387	-16.052	70261845387	-9.553
70324189526	1.134	70324189526	-16.477	70324189526	-9.545
70386533666	1.005	70386533666	-16.711	70386533666	-9.432
70448877805	0.923	70448877805	-16.972	70448877805	-9.314
70511221945	0.859	70511221945	-17.09	70511221945	-9.16
70573566085	0.753	70573566085	-17.065	70573566085	-9.014
70635910224	0.588	70635910224	-17.293	70635910224	-8.885
70698254364	0.406	70698254364	-17.521	70698254364	-8.869
70760598504	0.28	70760598504	-17.636	70760598504	-8.908
70822942643	0.178	70822942643	-17.771	70822942643	-8.976
70885286783	0.071	70885286783	-17.908	70885286783	-9.025
70947630923	-0.044	70947630923	-17.969	70947630923	-9.067
71009975062	-0.173	71009975062	-17.999	71009975062	-9.135
71072319202	-0.286	71072319202	-17.922	71072319202	-9.174
71134663342	-0.395	71134663342	-17.785	71134663342	-9.281
71197007481	-0.489	71197007481	-17.617	71197007481	-9.446
71259351621	-0.571	71259351621	-17.461	71259351621	-9.575
71321695761	-0.64	71321695761	-17.177	71321695761	-9.621
71384039900	-0.703	71384039900	-16.692	71384039900	-9.641
71446384040	-0.719	71446384040	-16.184	71446384040	-9.583
71508728180	-0.714	71508728180	-15.634	71508728180	-9.559
71571072319	-0.734	71571072319	-15.222	71571072319	-9.556
71633416459	-0.766	71633416459	-14.766	71633416459	-9.666
71695760599	-0.813	71695760599	-14.305	71695760599	-9.872
71758104738	-0.893	71758104738	-14.013	71758104738	-10.091
71820448878	-0.984	71820448878	-13.747	71820448878	-10.385
71882793017	-1.082	71882793017	-13.604	71882793017	-10.651
71945137157	-1.206	71945137157	-13.351	71945137157	-10.734
72007481297	-1.327	72007481297	-13.143	72007481297	-11.031
72069825436	-1.406	72069825436	-12.78	72069825436	-11.036
72132169576	-1.5	72132169576	-12.714	72132169576	-11.321
72194513716	-1.563	72194513716	-12.365	72194513716	-11.297
72256857855	-1.587	72256857855	-12.036	72256857855	-11.322
72319201995	-1.607	72319201995	-11.729	72319201995	-11.402
72381546135	-1.648	72381546135	-11.398	72381546135	-11.385
72443890274	-1.731	72443890274	-11.088	72443890274	-11.445
72506234414	-1.804	72506234414	-10.844	72506234414	-11.44
72568578554	-1.931	72568578554	-10.66	72568578554	-11.637
72630922693	-2.038	72630922693	-10.457	72630922693	-11.737
72693266833	-2.156	72693266833	-10.338	72693266833	-11.945
72755610973	-2.228	72755610973	-10.215	72755610973	-12.061
72817955112	-2.264	72817955112	-10.061	72817955112	-12.151
72880299252	-2.249	72880299252	-9.742	72880299252	-12.225

68.32918	37.878	-14.063	-13.088
68.39152	37.878	-14.167	-13.247
68.45387	37.849	-14.236	-13.187
68.51621	37.818	-14.143	-13.223
68.57855	37.809	-14.039	-13.064
68.6409	37.815	-12.983	-12.983
68.70324	37.783	-13.769	-12.854
68.76559	37.711	-12.876	-12.876
68.82793	37.62	-13.873	-12.747
68.89027	37.505	-14	-12.821
68.95262	37.483	-14.142	-12.821
69.01496	37.492	-14.107	-12.701
69.07731	37.472	-14.003	-12.484
69.13965	37.477	-14	-12.234
69.202	37.461	-14.011	-12.003
69.26434	37.403	-14.021	-11.772
69.32668	37.337	-13.97	-11.641
69.38903	37.28	-14.024	-11.467
69.45137	37.17	-11.292	-11.292
69.51372	37.06	-14.024	-11.052
69.57606	36.928	-14.063	-10.811
69.6384	36.846	-14.104	-10.668
69.70075	36.764	-14.159	-10.506
69.76309	36.717	-14.219	-10.275
69.82544	36.72	-14.354	-10.154
69.88778	36.771	-14.42	-9.907
69.95012	36.772	-14.538	-9.715
70.01247	36.725	-14.777	-9.57
70.07481	36.661	-15.112	-9.495
70.13716	36.544	-15.398	-9.457
70.1995	36.428	-15.708	-9.467
70.26185	36.294	-16.052	-9.553
70.32419	36.134	-16.477	-9.545
70.38653	36.005	-16.711	-9.432
70.44888	35.923	-16.972	-9.314
70.51122	35.859	-17.09	-9.16
70.57357	35.753	-17.065	-9.014
70.63591	35.588	-17.293	-8.885
70.69825	35.406	-17.521	-8.869
70.7606	35.28	-17.636	-8.908
70.82294	35.178	-17.771	-8.976
70.88529	35.071	-17.908	-9.025
70.94763	34.956	-17.969	-9.067
71.00998	34.827	-17.999	-9.135
71.07232	34.714	-17.922	-9.174
71.13466	34.605	-17.785	-9.281
71.19701	34.511	-17.617	-9.446
71.25935	34.429	-17.461	-9.575
71.3217	34.36	-17.177	-9.621
71.38404	34.297	-16.692	-9.641
71.44638	34.281	-16.184	-9.583
71.50873	34.286	-15.634	-9.559
71.57107	34.266	-15.222	-9.556
71.63342	34.234	-14.766	-9.666
71.69576	34.187	-14.305	-9.872
71.7581	34.107	-14.013	-10.091
71.82045	34.016	-13.747	-10.385
71.88279	33.918	-13.604	-10.651
71.94514	33.794	-13.351	-10.734
72.00748	33.673	-13.143	-11.031
72.06983	33.594	-12.78	-11.036
72.13217	33.5	-12.714	-11.321
72.19451	33.437	-12.365	-11.297
72.25686	33.413	-12.036	-11.322
72.3192	33.393	-11.402	-11.402
72.38155	33.352	-11.398	-11.385
72.44389	33.269	-11.088	-11.445
72.50623	33.196	-10.844	-11.44
72.56858	33.069	-10.66	-11.637
72.63092	32.962	-10.457	-11.737
72.69327	32.844	-10.338	-11.945
72.75561	32.772	-12.061	-12.061
72.81796	32.736	-12.151	-12.151
72.8803	32.751	-9.742	-12.225

72942643392	-2.233	72942643392	-9.485	72942643392	-12.369	72.94264	32.767	-9.485	-12.369
73004987531	-2.211	73004987531	-9.028	73004987531	-12.343	73.00499	32.789	-9.028	-12.343
73067331671	-2.203	73067331671	-8.847	73067331671	-12.456	73.06733	32.797	-8.847	-12.456
73129675810	-2.234	73129675810	-8.801	73129675810	-12.687	73.12968	32.766	-8.801	-12.687
73192019950	-2.241	73192019950	-8.658	73192019950	-12.874	73.19202	32.759	-8.658	-12.874
73254364090	-2.238	73254364090	-8.674	73254364090	-13.101	73.25436	32.762	-8.674	-13.101
73316708229	-2.244	73316708229	-8.512	73316708229	-13.236	73.31671	32.756	-8.512	-13.236
73379052369	-2.233	73379052369	-8.298	73379052369	-13.36	73.37905	32.767	-8.298	-13.36
73441396509	-2.222	73441396509	-7.99	73441396509	-13.288	73.4414	32.778	-7.99	-13.288
73503740648	-2.25	73503740648	-7.864	73503740648	-13.431	73.50374	32.75	-7.864	-13.431
73566084788	-2.217	73566084788	-7.742	73566084788	-13.516	73.56608	32.783	-7.742	-13.516
73628428928	-2.214	73628428928	-7.543	73628428928	-13.637	73.62843	32.786	-7.543	-13.637
73690773067	-2.205	73690773067	-7.235	73690773067	-13.755	73.69077	32.795	-7.235	-13.755
73753117207	-2.184	73753117207	-6.949	73753117207	-13.75	73.75312	32.816	-6.949	-13.75
73815461347	-2.096	73815461347	-6.796	73815461347	-13.852	73.81546	32.904	-6.796	-13.852
73877805486	-2.033	73877805486	-6.581	73877805486	-13.954	73.87781	32.967	-6.581	-13.954
73940149626	-2	73940149626	-6.545	73940149626	-14.186	73.94015	33	-6.545	-14.186
74002493766	-2.049	74002493766	-6.562	74002493766	-14.355	74.00249	32.951	-6.562	-14.355
74064837905	-2.159	74064837905	-6.496	74064837905	-14.698	74.06484	32.841	-6.496	-14.698
74127182045	-2.28	74127182045	-6.543	74127182045	-15.074	74.12718	32.72	-6.543	-15.074
74189526185	-2.315	74189526185	-6.611	74189526185	-15.337	74.18953	32.685	-6.611	-15.337
74251870324	-2.22	74251870324	-6.537	74251870324	-15.813	74.25187	32.78	-6.537	-15.813
74314214464	-2.186	74314214464	-6.386	74314214464	-16.098	74.31421	32.814	-6.386	-16.098
74376558603	-2.189	74376558603	-6.147	74376558603	-16.417	74.37656	32.811	-6.147	-16.417
74438902743	-2.238	74438902743	-6.037	74438902743	-16.733	74.4389	32.762	-6.037	-16.733
74501246883	-2.354	74501246883	-5.906	74501246883	-17.118	74.50125	32.646	-5.906	-17.118
74563591022	-2.486	74563591022	-5.891	74563591022	-17.405	74.56359	32.514	-5.891	-17.405
74625935162	-2.637	74625935162	-5.729	74625935162	-18.034	74.62594	32.363	-5.729	-18.034
74688279302	-2.815	74688279302	-5.853	74688279302	-18.537	74.68828	32.185	-5.853	-18.537
74750623441	-3.016	74750623441	-5.955	74750623441	-18.787	74.75062	31.984	-5.955	-18.787
74812967581	-3.217	74812967581	-5.998	74812967581	-19.279	74.81297	31.783	-5.998	-19.279
74875311721	-3.384	74875311721	-6.032	74875311721	-19.911	74.87531	31.616	-6.032	-19.911
74937655860	-3.568	74937655860	-6.128	74937655860	-20.017	74.93766	31.432	-6.128	-20.017

Eravant			75 - 110 GHz Pre-amplifier			SBL-7531143550-1010-E1(06649-01) Raw Test Data		
Part No.	Rev	Gain Ref:	Part No.	Rev	Gain Ref:	Part No.	Rev	Gain Ref:
7500000000	10.621	7500000000	-13.969	7500000000	-14.378	7500000000	35	7500000000
75087281796	10.737	75087281796	-14.986	75087281796	-13.728	75087281796	35	75087281796
75174653591	10.214	75174653591	-15.252	75174653591	-15.023	75174653591	35	75174653591
75261845387	11.201	75261845387	-16.062	75261845387	-13.537	75261845387	35	75261845387
75349127182	11.355	75349127182	-16.595	75349127182	-13.538	75349127182	35	75349127182
75436408978	11.429	75436408978	-15.17	75436408978	-12.969	75436408978	35	75436408978
75523690773	11.476	75523690773	-16.4	75523690773	-12.593	75523690773	35	75523690773
75610972569	11.566	75610972569	-16.901	75610972569	-12.676	75610972569	35	75610972569
7569824364	11.731	7569824364	-17.388	7569824364	-12.671	7569824364	35	7569824364
7578536160	11.893	7578536160	-18.141	7578536160	-12.805	7578536160	35	7578536160
75872817955	12.014	75872817955	-19.221	75872817955	-12.849	75872817955	35	75872817955
75960099751	12.097	75960099751	-17.106	75960099751	-12.967	75960099751	35	75960099751
76047381546	12.154	76047381546	-17.532	76047381546	-13.371	76047381546	35	76047381546
76134663342	12.154	76134663342	-17.273	76134663342	-13.571	76134663342	35	76134663342
76221945137	12.063	76221945137	-16.842	76221945137	-13.371	76221945137	35	76221945137
76309226933	11.986	76309226933	-16.288	76309226933	-13.552	76309226933	35	76309226933
76396508728	11.932	76396508728	-16.37	76396508728	-13.351	76396508728	35	76396508728
76483790524	11.833	76483790524	-15.439	76483790524	-13.846	76483790524	35	76483790524
76573072119	11.813	76573072119	-17.26	76573072119	-14.626	76573072119	35	76573072119
76668935115	11.833	76668935115	-15.557	76668935115	-15.67	76668935115	35	76668935115
76745635910	11.786	76745635910	-15.864	76745635910	-14.914	76745635910	35	76745635910
76832917706	11.717	76832917706	-14.868	76832917706	-15.488	76832917706	35	76832917706
76920199501	11.643	76920199501	-14.714	76920199501	-15.274	76920199501	35	76920199501
77007481297	11.506	77007481297	-14.296	77007481297	-14.939	77007481297	35	77007481297
77094763092	11.407	77094763092	-14.154	77094763092	-14.987	77094763092	35	77094763092
77182044888	11.409	77182044888	-13.722	77182044888	-14.502	77182044888	35	77182044888
77269326683	11.437	77269326683	-13.286	77269326683	-14.156	77269326683	35	77269326683
77356608479	11.462	77356608479	-13.168	77356608479	-14.555	77356608479	35	77356608479
77443890274	11.457	77443890274	-12.874	77443890274	-14.289	77443890274	35	77443890274
77531172070	11.511	77531172070	-12.885	77531172070	-14.173	77531172070	35	77531172070
77618453865	11.566	77618453865	-12.689	77618453865	-13.717	77618453865	35	77618453865
77705735661	11.623	77705735661	-12.215	77705735661	-13.193	77705735661	35	77705735661
77793017456	11.673	77793017456	-11.916	77793017456	-12.943	77793017456	35	77793017456
7788029252	11.717	7788029252	-11.662	7788029252	-13.079	7788029252	35	7788029252
77967581047	11.8	77967581047	-11.544	77967581047	-12.804	77967581047	35	77967581047
78054862843	11.869	78054862843	-11.544	78054862843	-13.571	78054862843	35	78054862843
78142144638	11.978	78142144638	-10.891	78142144638	-12.454	78142144638	35	78142144638
78229426434	12.016	78229426434	-11.011	78229426434	-12.349	78229426434	35	78229426434
78316708229	11.978	78316708229	-10.668	78316708229	-12.036	78316708229	35	78316708229
78403990025	11.973	78403990025	-10.506	78403990025	-12.341	78403990025	35	78403990025
78491271820	12.025	78491271820	-10.471	78491271820	-13.105	78491271820	35	78491271820
78578535616	12.041	78578535616	-10.464	78578535616	-12.277	78578535616	35	78578535616
78665835411	12.014	78665835411	-9.96	78665835411	-12.179	78665835411	35	78665835411
78753117207	11.916	78753117207	-9.724	78753117207	-12.292	78753117207	35	78753117207
78840399002	11.827	78840399002	-9.704	78840399002	-12.174	78840399002	35	78840399002
78927680798	11.756	78927680798	-9.456	78927680798	-12.56	78927680798	35	78927680798
79014962594	11.714	79014962594	-9.544	79014962594	-12.624	79014962594	35	79014962594
79102244389	11.736	79102244389	-9.091	79102244389	-12.788	79102244389	35	79102244389
79189526185	11.756	79189526185	-8.971	79189526185	-12.857	79189526185	35	79189526185
79276807980	11.715	79276807980	-8.952	79276807980	-13.05	79276807980	35	79276807980
79364089776	11.624	79364089776	-9.042	79364089776	-13.376	79364089776	35	79364089776
79451371571	11.421	79451371571	-8.869	79451371571	-13.129	79451371571	35	79451371571
79538653367	11.212	79538653367	-8.77	79538653367	-13.198	79538653367	35	79538653367
79625935162	11.102	79625935162	-8.712	79625935162	-12.648	79625935162	35	79625935162
79713216958	11.114	79713216958	-8.326	79713216958	-13.259	79713216958	35	79713216958
79800498753	11.286	79800498753	-8.144	79800498753	-12.923	79800498753	35	79800498753
79887780549	11.418	79887780549	-8.257	79887780549	-13.05	79887780549	35	79887780549
79975062344	11.413	79975062344	-8.07	79975062344	-13.135	79975062344	35	79975062344
80062344140	11.311	80062344140	-7.905	80062344140	-13.074	80062344140	35	80062344140
80149625935	11.187	80149625935	-8.193	80149625935	-12.873	80149625935	35	80149625935
80236907731	11.138	80236907731	-8.141	80236907731	-12.94	80236907731	35	80236907731
80324189526	11.167	80324189526	-8.742	80324189526	-13.025	80324189526	35	80324189526
8041471322	11.157	8041471322	-8.525	8041471322	-12.603	8041471322	35	8041471322
80498753117	11.212	80498753117	-8.653	80498753117	-12.849	80498753117	35	80498753117
80586034913	11.245	80586034913	-8.805	80586034913	-12.788	80586034913	35	80586034913
80673316708	11.234	80673316708	-8.973	80673316708	-12.827	80673316708	35	80673316708
80760598504	11.154	80760598504	-9.641	80760598504	-12.789	80760598504	35	80760598504
80847880299	11.055	80847880299	-10.231	80847880299	-13.544	80847880299	35	80847880299
80935162095	10.954	80935162095	-10.762	80935162095	-13.423	80935162095	35	80935162095
81022143890	10.858	81022143890	-10.517	81022143890	-13.846	81022143890	35	81022143890
81109725686	10.734	81109725686	-11.171	81109725686	-13.717	81109725686	35	81109725686
81197007481	10.633	81197007481	-11.552	81197007481	-13.615	81197007481	35	81197007481
81284289277	10.517	81284289277	-12.187	81284289277	-13.305	81284289277	35	81284289277
81371571072	10.407	81371571072	-12.596	81371571072	-14.002	81371571072	35	81371571072
81458825868	10.3	81458825868	-12.714	81458825868	-13.137	81458825868	35	81458825868
81546134663	10.195	81546134663	-13.225	81546134663	-14.063	81546134663	35	81546134663
81633416459	10.048	81633416459	-13.3	81633416459	-14.135	81633416459	35	81633416459
81720698254	9.835	81720698254	-13.659	81720698254	-14.044	81720698254	35	81720698254
81807980050	9.616	81807980050	-14.002	81807980050	-14.7	81807980050	35	81807980050
81895261845	9.429	81895261845	-14.162	81895261845	-14.945	81895261845	35	81895261845
81982543641	9.3	81982543641	-13.966	81982543641	-14.779	81982543641	35	81982543641
82069825436	9.169	82069825436	-13.889	82069825436	-15.005	82069825436	35	82069825436
82157107232	9.135	82157107232	-13.898	82157107232	-15.151	82157107232	35	82157107232
82244389027	9.067	82244389027	-14.209	82244389027	-15.799	82244389027	35	82244389027
8233670823	8.902	8233670823	-14.395	8233670823	-15.409	8233670823	35	8233670823
82418952618	8.883	82418952618	-14.417	82418952618	-15.075	82418952618	35	82418952618
82506234414	8.432	82506234414	-13.777	82506234414	-15.515	82506234414	35	82506234414
82593516209	8.185	82593516209	-13.407	82593516209	-14.083	82593516209	35	82593516209
82680798005	7.998	82680798005	-13.225	82680798005	-14.365	82680798005	35	82680798005
82768079800	7.891	82768079800	-13.788	82768079800	-13.752	82768079800	35	82768079800
82855361596	7.806	82855361596	-13.436	82855361596	-13.563	82855361596	35	82855361596
82942643392	7.61	82942643392	-12.797	82942643392	-13.264	82942643392	35	82942643392
8302925187	7.498	8302925187	-12.508	8302925187	-12.105	8302925187	35	8302925187
83117206983	7.301	83117206983	-12	83117206983	-11.794	83117206983	35	83117206983
83204488778	7.089	83204488778	-11.165	83204488778	-11.511	83204488778	35	83204488778
83291770574	6.867	83291770574	-10.662	83291770574	-10.777	83291770574	35	83291770574
83379052369	6.647	83379052369	-9.921	83379052369	-10.182	83379052369	35	83379052369
8346634165	6.473	8346634165	-9.358	8346634165	-9.572	8346634165	35	8346634165
83553615960	6.356	83553615960	-8.8					

86957605985	9.665	86957605985	-3.928	86957605985	-14.832	86.87032	44.646	-4.032	-13.7
87044887781	9.718	87044887781	-3.628	87044887781	-15.675	86.95761	44.665	-3.928	-14.832
87132169576	9.706	87132169576	-3.491	87132169576	-16.397	87.00489	44.718	-3.628	-15.675
87219451372	9.671	87219451372	-4.117	87219451372	-18.392	87.11942	44.712	-3.491	-16.397
87306733167	9.627	87306733167	-3.409	87306733167	-19.026	87.21945	44.671	-3.417	-18.392
87394014963	9.633	87394014963	-3.711	87394014963	-20.655	87.30673	44.627	-3.499	-19.026
87481296758	9.663	87481296758	-3.969	87481296758	-23.613	87.39401	44.633	-3.711	-20.655
87568578554	9.611	87568578554	-3.93	87568578554	-25.241	87.4813	44.663	-3.969	-23.613
87655860349	9.644	87655860349	-3.933	87655860349	-24.377	87.56878	44.611	-3.93	-25.241
87743142145	9.589	87743142145	-4.414	87743142145	-24.665	87.65586	44.641	-3.933	-24.377
87830423940	9.465	87830423940	-4.466	87830423940	-23.097	87.74314	44.589	-4.414	-24.665
87917705736	9.3	87917705736	-4.518	87917705736	-24.165	87.83042	44.465	-4.466	-23.097
88004987531	9.21	88004987531	-4.504	88004987531	-23.97	87.91771	44.3	-4.518	-24.165
88092269327	9.207	88092269327	-4.559	88092269327	-24.016	88.00499	44.21	-4.504	-23.97
88179551122	9.262	88179551122	-4.532	88179551122	-21.743	88.09227	44.207	-4.559	-24.016
88266832918	9.168	88266832918	-4.507	88266832918	-19.627	88.17955	44.262	-4.532	-21.743
88354114713	8.968	88354114713	-4.762	88354114713	-20.045	88.26683	44.168	-4.507	-19.627
88441396509	8.778	88441396509	-4.991	88441396509	-16.983	88.35411	43.968	-4.762	-20.045
88528678304	8.666	88528678304	-5.073	88528678304	-16.505	88.4414	43.778	-4.991	-16.983
88615960100	8.643	88615960100	-5.057	88615960100	-16.236	88.52868	43.666	-5.073	-16.505
88703241895	8.641	88703241895	-5.188	88703241895	-15.458	88.61599	43.643	-5.057	-16.236
88790523691	8.718	88790523691	-5.117	88790523691	-14.89	88.70324	43.641	-5.188	-15.458
88877805486	8.816	88877805486	-5.243	88877805486	-14.249	88.79052	43.718	-5.117	-14.89
88965087282	8.91	88965087282	-5.386	88965087282	-12.939	88.87781	43.816	-5.243	-14.249
89052369077	8.946	89052369077	-5.543	89052369077	-12.808	88.96509	43.91	-5.386	-12.939
89139650673	9.004	89139650673	-5.598	89139650673	-10.884	89.05237	43.946	-5.543	-12.808
89226923668	8.992	89226923668	-5.595	89226923668	-11.523	89.13965	44.006	-5.598	-10.884
89314214664	8.946	89314214664	-5.752	89314214664	-10.858	89.22693	43.992	-5.595	-11.523
89401496259	8.935	89401496259	-5.851	89401496259	-10.209	89.31421	43.946	-5.752	-10.858
89488778055	8.962	89488778055	-6.081	89488778055	-9.649	89.4015	43.935	-5.851	-10.209
89576059850	9.064	89576059850	-6.271	89576059850	-9.339	89.48878	43.962	-6.081	-9.649
8966341546	9.185	8966341546	-6.548	8966341546	-9.006	89.57606	44.064	-6.271	-9.339
89750623441	9.259	89750623441	-6.878	89750623441	-8.531	89.66334	44.185	-6.548	-9.006
89837905237	9.295	89837905237	-7.15	89837905237	-8.309	89.75062	44.259	-6.878	-8.531
89925187032	9.278	89925187032	-7.46	89925187032	-8.201	89.83791	44.295	-7.15	-8.309
90012468828	9.201	90012468828	-7.962	90012468828	-7.905	89.92519	44.278	-7.46	-8.201
90099750623	9.083	90099750623	-8.468	90099750623	-7.625	90.01247	44.201	-7.962	-7.905
90187032419	9.076	90187032419	-8.885	90187032419	-7.281	90.09975	44.083	-8.468	-7.625
90274314214	8.949	90274314214	-9.136	90274314214	-7.04	90.18703	43.976	-8.885	-7.281
90361596010	9.987	90361596010	-9.592	90361596010	-6.815	90.27431	43.949	-9.136	-7.04
90448877805	9.088	90448877805	-10.157	90448877805	-6.8	90.3616	43.987	-9.592	-6.815
90536159601	9.207	90536159601	-10.591	90536159601	-6.644	90.44888	44.088	-10.157	-6.8
90623441397	9.322	90623441397	-11.222	90623441397	-6.702	90.53616	44.207	-10.591	-6.644
90710723192	9.548	90710723192	-11.879	90710723192	-6.68	90.62344	44.322	-11.222	-6.702
90798004988	9.677	90798004988	-11.978	90798004988	-6.594	90.71072	44.548	-11.879	-6.68
90885286783	9.759	90885286783	-12.549	90885286783	-6.575	90.798	44.777	-11.978	-6.594
9097568579	9.778	9097568579	-13.011	9097568579	-6.592	90.88529	44.759	-12.549	-6.575
91059850374	9.801	91059850374	-13.297	91059850374	-6.375	90.97257	44.778	-13.011	-6.592
91147132170	9.852	91147132170	-13.901	91147132170	-6.373	91.05985	44.801	-13.297	-6.375
91234413965	9.951	91234413965	-14.214	91234413965	-6.304	91.14713	44.852	-13.901	-6.373
91321695761	10.099	91321695761	-14.53	91321695761	-6.312	91.23441	44.951	-14.214	-6.304
91408977556	10.228	91408977556	-15.187	91408977556	-6.244	91.3217	45.099	-14.53	-6.312
91496259352	10.327	91496259352	-15.461	91496259352	-6.189	91.40898	45.228	-15.187	-6.244
91583541147	10.322	91583541147	-16.48	91583541147	-6.163	91.49625	45.366	-15.461	-6.189
91670822943	10.242	91670822943	-17.431	91670822943	-6.104	91.58354	45.322	-16.48	-6.163
91758104738	10.063	91758104738	-17.016	91758104738	-6.015	91.67082	45.242	-17.431	-6.104
91845386534	9.886	91845386534	-18.153	91845386534	-5.922	91.75811	45.063	-17.016	-6.015
91932668329	9.625	91932668329	-19.504	91932668329	-5.77	91.84539	44.886	-18.153	-5.922
92019901625	9.507	92019901625	-19.856	92019901625	-5.721	91.93267	44.825	-18.153	-5.77
92107231929	9.457	92107231929	-19.856	92107231929	-5.647	92.01995	44.807	-19.856	-5.721
92194513716	9.405	92194513716	-18.581	92194513716	-5.521	92.10723	44.457	-19.856	-5.647
92281795511	9.358	92281795511	-20.726	92281795511	-5.4	92.19451	44.405	-18.581	-5.521
92369077307	9.262	92369077307	-20.051	92369077307	-5.345	92.2818	44.358	-20.726	-5.4
92456359102	9.044	92456359102	-21.716	92456359102	-5.279	92.36908	44.262	-20.051	-5.345
92535640698	8.707	92535640698	-23.894	92535640698	-5.147	92.45636	44.044	-21.716	-5.279
92630922693	8.361	92630922693	-26.31	92630922693	-4.738	92.54364	43.707	-23.894	-5.147
92718204489	8.051	92718204489	-30.023	92718204489	-4.659	92.63092	43.361	-26.31	-4.738
92805486284	7.867	92805486284	-33.992	92805486284	-4.653	92.71821	43.051	-30.023	-4.659
92892768080	7.768	92892768080	-35.456	92892768080	-4.7	92.80549	42.867	-33.992	-4.653
9298049875	7.748	9298049875	-36.967	9298049875	-4.84	92.89277	42.768	-35.456	-4.7
93067331671	7.767	93067331671	-38.551	93067331671	-4.853	92.98005	42.748	-36.967	-4.84
93154613466	7.729	93154613466	-41.679	93154613466	-4.862	93.06733	42.767	-38.551	-4.853
93241895262	7.672	93241895262	-44.124	93241895262	-4.736	93.15461	42.729	-41.679	-4.862
93329177057	7.587	93329177057	-46.821	93329177057	-4.782	93.2419	42.672	-44.124	-4.736
93414648853	7.466	93414648853	-50.163	93414648853	-4.809	93.32918	42.587	-46.821	-4.782
93503740548	7.275	93503740548	-53.931	93503740548	-4.854	93.41646	42.466	-50.163	-4.809
93591022444	7.13	93591022444	-58.443	93591022444	-4.85	93.50374	42.279	-53.931	-4.854
93678304239	7.034	93678304239	-63.82	93678304239	-5.227	93.59102	42.13	-58.443	-4.85
93765586035	6.974	93765586035	-69.819	93765586035	-5.188	93.67831	42.034	-63.82	-5.227
93852867830	6.949	93852867830	-76.652	93852867830	-5.303	93.76559	41.974	-69.819	-5.188
93940149626	6.917	93940149626	-84.603	93940149626	-5.515	93.85287	41.949	-76.652	-5.303
94027431421	6.817	94027431421	-93.829	94027431421	-5.616	93.94015	41.917	-84.603	-5.515
94114713217	6.68	94114713217	-104.371	94114713217	-6.061	94.02743	41.817	-93.829	-5.616
94201995012	6.504	94201995012	-116.802	94201995012	-6.026	94.11471	41.68	-104.371	-6.061
94289276808	6.336	94289276808	-131.718	94289276808	-5.886	94.202	41.504	-116.802	-6.026
94376558603	6.109	94376558603	-149.548	94376558603	-5.969	94.28928	41.336	-131.718	-5.886
94463840399	5.874	94463840399	-170.41	94463840399	-6.012	94.37656	41.109	-149.548	-5.969
94551122195	5.634	94551122195	-195.251	94551122195	-6.021	94.46384	40.872	-170.41	-6.012
94638403990	5.455	94638403990	-221.221	94638403990	-6.375	94.55112	40.634	-195.251	-6.021
94725685786	5.397	94725685786	-250.04	94725685786	-6.414	94.6384	40.455	-221.221	-6.375
94812967581	5.45	94812967581	-284.678	94812967581	-6.323	94.72569	40.397	-250.04	-6.414
94900249377	5.509	94900249377	-325.648	94900249377	-6.205	94.81297	40.45	-284.678	-6.323
94987531172	5.491	94987531172	-373.693	94987531172	-6.342	94.90025	40.509	-325.648	-6.205
95074812968	5.365	95074812968	-428.398	95074812968	-6.479	94.98753	40.491	-373.693	-6.342
95162094763	5.117	95162094763	-495.629	95162094763	-6.45	95.07481	40.365	-428.398	-6.479
95249376559	4.857	95249376559	-578.609	95249376559	-6.389	95.16209	40.117	-495.629	-6.45
95336658354	4.593	95336658354	-681.589	95336658354	-6.183	95.24938	39.857	-578.609	-6.389
9542									

99002493766	2.43	99002493766	-2.722	99002493766	-7.09	98.91521	37.307	-2.629	-6.996
99089775561	2.599	99089775561	-2.805	99089775561	-7.317	99.00249	37.43	-2.722	-7.09
99177057357	2.807	99177057357	-2.829	99177057357	-7.446	99.08978	37.599	-2.805	-7.317
9926439152	3.043	9926439152	-2.719	9926439152	-7.567	99.17706	37.807	-2.829	-7.446
99351620948	3.2	99351620948	-2.747	99351620948	-7.663	99.26434	38.043	-2.719	-7.567
99438902743	3.326	99438902743	-2.763	99438902743	-7.869	99.35162	38.2	-2.747	-7.663
99526184539	3.425	99526184539	-2.774	99526184539	-8.135	99.43899	38.326	-2.763	-7.869
99613466334	3.516	99613466334	-2.843	99613466334	-8.268	99.52618	38.425	-2.774	-8.135
99700748130	3.593	99700748130	-2.851	99700748130	-8.597	99.61347	38.516	-2.843	-8.268
99788029925	3.645	99788029925	-2.848	99788029925	-8.764	99.70075	38.593	-2.851	-8.597
99875311721	3.725	99875311721	-2.878	99875311721	-9.146	99.78803	38.645	-2.848	-8.764
99962593516	3.848	99962593516	-2.972	99962593516	-9.446	99.87531	38.725	-2.878	-9.146
1.00055E+11	3.958	1.00055E+11	-3.133	1.00055E+11	-9.816	99.96259	38.848	-2.972	-9.446
1.00137E+11	4.038	1.00137E+11	-3.257	1.00137E+11	-10.13	100.0499	38.958	-3.133	-9.816
1.00224E+11	4.079	1.00224E+11	-3.326	1.00224E+11	-10.613	100.1372	39.038	-3.257	-10.13
1.00312E+11	4.059	1.00312E+11	-3.422	1.00312E+11	-11.19	100.2244	39.079	-3.326	-10.613
1.00399E+11	3.9	1.00399E+11	-3.496	1.00399E+11	-11.739	100.3117	39.059	-3.422	-11.19
1.00486E+11	3.683	1.00486E+11	-3.548	1.00486E+11	-12.077	100.399	38.9	-3.496	-11.739
1.00574E+11	3.464	1.00574E+11	-3.647	1.00574E+11	-12.761	100.4863	38.683	-3.548	-12.077
1.00661E+11	3.294	1.00661E+11	-3.705	1.00661E+11	-13.609	100.5736	38.464	-3.647	-12.761
1.00748E+11	3.153	1.00748E+11	-3.862	1.00748E+11	-14.113	100.6608	38.294	-3.705	-13.609
1.00835E+11	3.027	1.00835E+11	-4.034	1.00835E+11	-15.062	100.7481	38.153	-3.862	-14.113
1.00923E+11	2.925	1.00923E+11	-4.167	1.00923E+11	-16.941	100.8354	38.027	-4.034	-15.062
1.01011E+11	2.832	1.01011E+11	-4.304	1.01011E+11	-17.614	100.9227	37.925	-4.167	-16.941
1.01097E+11	2.669	1.01097E+11	-4.455	1.01097E+11	-18.897	101.01	37.832	-4.304	-17.614
1.01185E+11	2.544	1.01185E+11	-4.653	1.01185E+11	-21.663	101.0973	37.669	-4.455	-18.897
1.01272E+11	2.453	1.01272E+11	-4.779	1.01272E+11	-22.366	101.1845	37.544	-4.653	-21.663
1.01359E+11	2.134	1.01359E+11	-4.963	1.01359E+11	-23.171	101.2718	37.453	-4.779	-22.366
1.01446E+11	1.977	1.01446E+11	-5.422	1.01446E+11	-22.185	101.3591	37.134	-4.963	-23.171
1.01534E+11	1.865	1.01534E+11	-5.562	1.01534E+11	-23.712	101.4464	36.977	-5.422	-22.185
1.01621E+11	1.76	1.01621E+11	-5.642	1.01621E+11	-23.77	101.5337	36.865	-5.562	-23.712
1.01708E+11	1.7	1.01708E+11	-5.762	1.01708E+11	-24.294	101.6209	36.76	-5.642	-23.77
1.01795E+11	1.574	1.01795E+11	-6.029	1.01795E+11	-23.506	101.7082	36.7	-5.762	-24.294
1.01883E+11	1.434	1.01883E+11	-6.334	1.01883E+11	-21.904	101.7955	36.574	-6.029	-23.506
1.01971E+11	1.28	1.01971E+11	-6.751	1.01971E+11	-18.878	101.8828	36.434	-6.334	-21.904
1.02057E+11	1.145	1.02057E+11	-7.048	1.02057E+11	-17.17	101.9701	36.28	-6.751	-18.878
1.02145E+11	1.047	1.02145E+11	-7.421	1.02145E+11	-16.003	102.0574	36.145	-7.048	-17.17
1.02232E+11	0.907	1.02232E+11	-8.045	1.02232E+11	-14.382	102.1446	36.047	-7.421	-16.003
1.02319E+11	0.785	1.02319E+11	-8.603	1.02319E+11	-13.665	102.2319	35.907	-8.045	-14.382
1.02406E+11	0.58	1.02406E+11	-9.009	1.02406E+11	-12.536	102.3192	35.785	-8.603	-13.665
1.02494E+11	0.459	1.02494E+11	-9.627	1.02494E+11	-11.374	102.4065	35.58	-9.009	-12.536
1.02581E+11	0.322	1.02581E+11	-10.374	1.02581E+11	-10.926	102.4938	35.459	-9.627	-11.374
1.02668E+11	0.14	1.02668E+11	-11.119	1.02668E+11	-10.165	102.5811	35.322	-10.374	-10.926
1.02755E+11	0.019	1.02755E+11	-12.396	1.02755E+11	-9.548	102.6683	35.14	-11.119	-10.165
1.02843E+11	0	1.02843E+11	-13.009	1.02843E+11	-8.987	102.7556	35.019	-12.396	-9.548
1.02931E+11	-0.025	1.02931E+11	-13.662	1.02931E+11	-8.352	102.8429	35	-13.009	-8.987
1.03017E+11	0.019	1.03017E+11	-14.387	1.03017E+11	-7.899	102.9302	34.975	-13.662	-8.352
1.03105E+11	-0.044	1.03105E+11	-14.884	1.03105E+11	-7.509	103.0175	35.019	-14.387	-7.899
1.03192E+11	-0.142	1.03192E+11	-14.456	1.03192E+11	-7.136	103.1047	34.956	-14.884	-7.509
1.03279E+11	-0.343	1.03279E+11	-14.357	1.03279E+11	-6.878	103.192	34.858	-14.456	-7.136
1.03367E+11	-0.572	1.03367E+11	-13.769	1.03367E+11	-6.594	103.2793	34.657	-14.357	-6.878
1.03454E+11	-0.764	1.03454E+11	-13.272	1.03454E+11	-6.317	103.3666	34.428	-13.769	-6.594
1.03541E+11	-0.876	1.03541E+11	-12.616	1.03541E+11	-6.093	103.4539	34.236	-13.272	-6.317
1.03628E+11	-0.904	1.03628E+11	-12.222	1.03628E+11	-5.968	103.5412	34.124	-12.616	-6.093
1.03716E+11	-0.956	1.03716E+11	-11.451	1.03716E+11	-5.831	103.6284	34.096	-12.222	-5.968
1.03803E+11	-1.013	1.03803E+11	-10.913	1.03803E+11	-5.307	103.7157	34.044	-11.451	-5.831
1.03891E+11	-1.137	1.03891E+11	-10.113	1.03891E+11	-5.068	103.803	33.987	-10.913	-5.307
1.03978E+11	-1.329	1.03978E+11	-9.633	1.03978E+11	-4.939	103.8903	33.863	-10.113	-5.068
1.04065E+11	-1.687	1.04065E+11	-9.106	1.04065E+11	-4.785	103.9776	33.671	-9.633	-4.939
1.04152E+11	-2.054	1.04152E+11	-8.682	1.04152E+11	-4.587	104.0648	33.313	-9.106	-4.785
1.04239E+11	-2.362	1.04239E+11	-8.336	1.04239E+11	-4.414	104.1521	32.946	-8.682	-4.587
1.04327E+11	-2.524	1.04327E+11	-8.067	1.04327E+11	-4.34	104.2394	32.638	-8.336	-4.414
1.04414E+11	-2.67	1.04414E+11	-7.809	1.04414E+11	-4.357	104.3267	32.476	-8.067	-4.34
1.04501E+11	-2.711	1.04501E+11	-7.43	1.04501E+11	-4.206	104.414	32.33	-7.809	-4.357
1.04589E+11	-2.719	1.04589E+11	-7.034	1.04589E+11	-4.093	104.5012	32.289	-7.43	-4.206
1.04676E+11	-2.725	1.04676E+11	-6.741	1.04676E+11	-3.906	104.5885	32.281	-7.034	-4.093
1.04763E+11	-2.764	1.04763E+11	-6.361	1.04763E+11	-3.758	104.6758	32.275	-6.741	-3.906
1.04851E+11	-2.941	1.04851E+11	-6.139	1.04851E+11	-3.656	104.7631	32.236	-6.361	-3.758
1.04938E+11	-3.15	1.04938E+11	-5.587	1.04938E+11	-3.521	104.8504	32.059	-6.139	-3.656
1.05025E+11	-3.335	1.05025E+11	-5.399	1.05025E+11	-3.367	104.9377	31.85	-5.587	-3.521
1.05112E+11	-3.419	1.05112E+11	-4.923	1.05112E+11	-3.137	105.0249	31.665	-5.399	-3.367
1.052E+11	-3.389	1.052E+11	-4.688	1.052E+11	-2.966	105.1122	31.581	-4.923	-3.137
1.05287E+11	-3.409	1.05287E+11	-4.346	1.05287E+11	-2.753	105.1995	31.611	-4.688	-2.966
1.05374E+11	-3.375	1.05374E+11	-4.15	1.05374E+11	-2.65	105.2868	31.591	-4.346	-2.753
1.05461E+11	-3.42	1.05461E+11	-4.104	1.05461E+11	-2.708	105.3741	31.425	-4.15	-2.65
1.05549E+11	-3.549	1.05549E+11	-3.93	1.05549E+11	-2.686	105.4613	31.58	-4.104	-2.708
1.05636E+11	-3.82	1.05636E+11	-3.722	1.05636E+11	-2.571	105.5486	31.651	-3.93	-2.686
1.05723E+11	-4.142	1.05723E+11	-3.471	1.05723E+11	-2.414	105.6359	31.18	-3.722	-2.571
1.05811E+11	-4.512	1.05811E+11	-3.31	1.05811E+11	-2.319	105.7232	30.858	-3.471	-2.414
1.05898E+11	-4.776	1.05898E+11	-3.145	1.05898E+11	-2.211	105.8105	30.488	-3.31	-2.319
1.05986E+11	-5.112	1.05986E+11	-2.955	1.05986E+11	-2.062	105.8978	30.224	-3.145	-2.211
1.06073E+11	-5.433	1.06073E+11	-2.75	1.06073E+11	-1.912	105.985	29.988	-2.955	-2.062
1.06161E+11	-5.711	1.06161E+11	-2.703	1.06161E+11	-1.923	106.0723	29.567	-2.75	-1.912
1.06247E+11	-6.043	1.06247E+11	-2.629	1.06247E+11	-1.959	106.1596	29.289	-2.703	-1.923
1.06334E+11	-6.26	1.06334E+11	-2.56	1.06334E+11	-1.928	106.2469	28.957	-2.629	-1.959
1.06421E+11	-6.545	1.06421E+11	-2.357	1.06421E+11	-1.816	106.3342	28.74	-2.56	-1.928
1.06509E+11	-6.889	1.06509E+11	-2.328	1.06509E+11	-1.711	106.4215	28.455	-2.357	-1.816
1.06596E+11	-7.166	1.06596E+11	-2.033	1.06596E+11	-1.582	106.5087	28.111	-2.328	-1.711
1.06683E+11	-7.573	1.06683E+11	-1.848	1.06683E+11	-1.502	106.596	27.834	-2.033	-1.582
1.06771E+11	-7.743	1.06771E+11	-1.95	1.06771E+11	-1.672	106.6833	27.427	-1.848	-1.502
1.06858E+11	-7.911	1.06858E+11	-2.15	1.06858E+11	-1.933	106.7706	27.257	-1.95	-1.672
1.06945E+11	-7.946	1.06945E+11	-2.186	1.06945E+11	-2.01	106.8579	27.089	-2.15	-1.933
1.07032E+11	-7.877	1.07032E+11	-1.994	1.07032E+11	-1.854	106.9451	27.054	-2.186	-2.01
1.0712E+11	-7.885	1.0712E+11	-1.838	1.0712E+11	-1.728	107.0324	27.123	-1.994	-1.854
1.07207E+11	-8.306	1.07207E+11	-1.78	1.07207E+11	-1.697	107.1197	27.115	-1.838	-1.728
1.07294E+11	-8.468	1.07294E+11	-1.741	1.07294E+11	-1.714	107.207	26.694	-1.78	-1.697
1.07382E+11	-8.518	1.07382E+11	-1.7	1.07382E+11	-1.763	107.2943	26.532	-1.741	-1.714
1.07469E+11	-8.652	1.							

I00591_1 – 50 GHz Pre-amplifier	
From 11-1-2020 test data	
1.000	-48.13
1.024	-48.12
1.498	-47.93
1.523	-47.92
1.998	-47.74
2.023	-47.73
2.497	-47.45
2.522	-47.43
2.996	-46.96
3.021	-46.95
3.496	-46.98
3.521	-46.98
3.995	-46.84
4.020	-46.82
4.494	-46.42
4.519	-46.41
4.994	-46.16
5.019	-46.16
5.493	-46.03
5.518	-46.02
5.993	-45.80
6.018	-45.79
6.492	-45.51
6.517	-45.49
6.991	-45.23
7.016	-45.21
7.491	-45.01
7.516	-44.99
7.990	-44.71
8.015	-44.70
8.489	-44.39
8.514	-44.37
8.989	-44.12
9.014	-44.11
9.488	-43.87
9.513	-43.86
9.988	-43.66
10.013	-43.65

10.487	-43.36
10.512	-43.35
10.986	-43.13
11.011	-43.12
11.486	-42.96
11.511	-42.95
11.985	-42.81
12.010	-42.81
12.484	-42.68
12.509	-42.67
12.984	-42.52
13.009	-42.51
13.483	-42.35
13.508	-42.34
13.983	-42.10
14.008	-42.08
14.482	-41.78
14.507	-41.76
14.981	-41.36
15.006	-41.35
15.481	-40.95
15.506	-40.93
15.980	-40.73
16.005	-40.71
16.479	-40.66
16.504	-40.66
16.979	-40.70
17.004	-40.69
17.478	-40.72
17.503	-40.72
17.528	-40.72
17.978	-40.73
18.003	-40.73
18.477	-40.73
18.502	-40.76
18.976	-40.93
19.001	-40.94
19.576	-41.25
19.601	-41.27
19.975	-41.64
20.000	-41.67

20.499	-42.17
20.524	-42.21
20.999	-43.06
21.024	-43.09
21.498	-43.61
21.523	-43.62
21.898	-43.79
21.923	-43.79
22.497	-43.64
22.522	-43.64
22.996	-43.59
23.021	-43.56
23.496	-43.36
23.521	-43.35
23.995	-43.13
24.020	-43.15
24.494	-42.98
24.519	-42.93
24.994	-42.67
25.019	-42.65
25.493	-42.29
25.518	-42.27
25.993	-42.23
26.018	-42.24
26.492	-42.84
26.517	-42.87
26.991	-43.30
27.016	-43.31
27.491	-43.15
27.516	-43.15
27.990	-42.74
28.015	-42.75
28.489	-42.89
28.514	-42.89
28.989	-43.01
29.014	-43.02
29.488	-42.34
29.513	-42.31
29.988	-42.07
30.013	-42.10
30.487	-42.43

30.512	-42.47
30.986	-43.60
31.011	-43.68
31.486	-43.89
31.511	-43.79
31.985	-42.73
32.010	-42.73
32.484	-42.60
32.509	-42.65
32.984	-43.13
33.009	-43.16
33.483	-43.93
33.508	-43.96
33.983	-43.42
34.008	-43.39
34.482	-42.73
34.507	-42.65
34.981	-41.78
35.006	-41.70
35.481	-41.91
35.506	-41.94
35.980	-42.58
36.005	-42.57
36.479	-44.03
36.504	-43.99
36.979	-44.14
37.004	-44.19
37.478	-44.01
37.503	-43.95
37.978	-44.66
38.003	-44.66
38.477	-45.48
38.502	-45.41
38.976	-46.51
39.001	-46.43
39.476	-47.37
39.501	-47.45
39.950	-47.95
39.975	-48.00
40.000	-48.08



Electro Rent Corporation
 15385 Oxnard St
 Van Nuys, CA 91411
Toll Free: (800) 455-5445
Phone: (818) 787-2100
Email: csc@electorent.com
Web: www.electorent.com

Certificate of Conformance

Order Date:	JANUARY 05, 2021	Customer Contact:	MARK SECHRIST
Order Number:	2890207	Customer Number:	238959
Purchase Order:	P001008	Ship Date:	JANUARY 19, 2021

Ship To:	1724 SOUTH NEVADA WAY MESA, AZ 85204	Bill To:	1724 S. NEVADA WAY MESA, AZ 85204
Testing Facility:	ELECTRO RENT CORPORATION (WDC) 15385 OXNARD ST VAN NUYS, CA 91411		

Part#/Manufacturer/Description	Serial#	Asset#	Ship Qty	Country of Origin
KT-E8257DS15 Keysight Technologies (formerly Agilent): 50GHz-75GHz Millimeter Source module	US52140105 120403-3	1670131B	1	UNITED STATES
KT-E8257DS10 Keysight Technologies (formerly Agilent): 75GHz-110GHz Millimeter Source module	US52140177 160728-2	1320458A	1	UNITED STATES

Certificate of Conformance Statement:

This is to certify that the products and/or services contracted by the purchase order (stated above) have been manufactured, processed, inspected, and tested in accordance with all requirements of the said purchase order. Furthermore, inspection and test results (if applicable) signify that the items delivered are in complete conformance to the purchase order requirements. Other data and/or related documents not enclosed with this shipment are maintained on file and are available upon request.

Electro Rent Corporation

Authorized Signature

Alejandra Salazar

Director of Quality



Electro Rent Corporation
 15385 Oxnard St
 Van Nuys, CA 91411
Toll Free: (800) 455-5445
Phone: (818) 787-2100
Email: csc@electorent.com
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Certificate of Conformance

Order Date:	JANUARY 05, 2021	Customer Contact:	MARK SECHRIST
Order Number:	2890207	Customer Number:	238959
Purchase Order:	P001008	Ship Date:	JANUARY 19, 2021

Ship To:	1724 SOUTH NEVADA WAY MESA, AZ 85204	Bill To:	1724 S. NEVADA WAY MESA, AZ 85204
Testing Facility:	ELECTRO RENT CORPORATION (WDC) 15385 OXNARD ST VAN NUYS, CA 91411		

Part#/Manufacturer/Description	Serial#	Asset#	Ship Qty	Country of Origin
KT-E8257DS15 Keysight Technologies (formerly Agilent): 50GHz-75GHz Millimeter Source module	US52140105 120403-3	1670131B	1	UNITED STATES
KT-E8257DS10 Keysight Technologies (formerly Agilent): 75GHz-110GHz Millimeter Source module	US52140177 160728-2	1320458A	1	UNITED STATES

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Electro Rent Corporation

Authorized Signature

Alejandra Salazar

Director of Quality

Calibration Certificate

Certificate Number **0001-300493453**

Kalibrierschein

Zertifikatsnummer

Unit Data

Item **VECTOR SIGNAL GENERATOR**
Gegenstand

Manufacturer **ROHDE & SCHWARZ**
Hersteller

Type **SMW200A**
Typ

Material Number **1412.0000K02** Serial Number **105019**
Materialnummer Seriennummer

Asset Number
Inventarnummer

This calibration certificate documents, that the named item is tested and measured against defined specifications. Measurement results are located usually in the corresponding interval with a probability of approx. 95% (coverage factor $k = 2$). Calibration is performed with test equipment and standards directly or indirectly traceable by means of approved calibration techniques to the PTB/DKD or other national / international standards, which realize the physical units of measurement according to the International System of Units (SI). In all cases where no standards are available, measurements are referenced to standards of the R&S laboratories. Principles and methods of calibration correspond and are conformant with EN ISO/IEC 17025, ANSI/NCSL Z540.1-1994 and ANSI/NCSL Z540.3-2006. The applied quality system is certified to EN ISO 9001. This calibration certificate may not be reproduced other than in full. Calibration certificates without signatures are not valid. The user is obliged to have the object recalibrated at appropriate intervals.

Order Data

Customer **Microlease Ltd**
Auftraggeber **Test Equipment Asset Management Ltd**

Hailsham Drive
HA1 4TR Harrow
GB

Order Number **65627**
Bestellnummer

Date of Receipt **2019-01-11**
Eingangdatum

Dieser Kalibrierschein dokumentiert, dass der genannte Gegenstand nach festgelegten Vorgaben geprüft und gemessen wurde. Die Messwerte lagen im Regelfall mit einer Wahrscheinlichkeit von annähernd 95% im zugeordneten Werteintervall (Erweiterte Messunsicherheit mit $k = 2$). Die Kalibrierung erfolgte mit Messmitteln und Normalen, die direkt oder indirekt durch Ableitung mittels anerkannter Kalibriertechniken rückgeführt sind auf Normale der PTB/DKD oder anderer nationaler/internationaler Standards zur Darstellung der physikalischen Einheiten in Übereinstimmung mit dem Internationalen Einheitensystem (SI). Wenn keine Normale existieren, erfolgt die Rückführung auf Bezugsnormale der R&S-Laboratorien. Grundsätze und Verfahren der Kalibrierung beziehen sich auf und entsprechen EN ISO/IEC 17025, ANSI/NCSL Z540.1-1994 und ANSI/NCSL Z540.3-2006. Das angewandte Qualitätsmanagement-System ist zertifiziert nach EN ISO 9001. Dieser Kalibrierschein darf nur vollständig und unverändert weiterverbreitet werden. Kalibrierscheine ohne Signifizierungen sind ungültig. Für die Einhaltung einer angemessenen Frist zur Wiederholung der Kalibrierung ist der Benutzer verantwortlich.

Performance

Place and Date of Calibration **Werk Memmingen, 2019-01-16**
Ort und Datum der Kalibrierung

Scope of Calibration **Standard Calibration**
Umfang der Kalibrierung

Statement of Compliance (Incoming) **All measured values are within the data sheet specifications.**
Konformitätsaussage (Anlieferung)

Statement of Compliance (Outgoing) **All measured values are within the data sheet specifications.**
Konformitätsaussage (Auslieferung)

Extent of Calibration Documents **2 Pages Calibration Certificate**
Umfang des Kalibrierdokuments **51 Pages Outgoing Results**
55 Pages Incoming Results

Rohde & Schwarz Messgerätebau GmbH

Date of Issue
Ausstellungsdatum

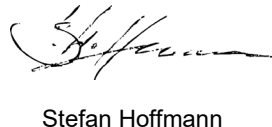
Head of Laboratory
Laborleitung

Person Responsible
Bearbeiter

2019-01-16



Steigmüller



Stefan Hoffmann

Page 1/2
ver9815/MB0707

Calibration Method **see first page of Test Report**
Kalibrieranweisung

Relative Humidity **20%-60%**
Relative Luftfeuchte

Ambient Temperature **(23⁺⁷) °C**
Umgebungstemperatur -3

Working standards used (having a significant effect on the accuracy)

Verwendete Gebrauchsnormale (mit signifikantem Einfluss auf die Genauigkeit)

Item Gegenstand	Type Typ	Serial Number Seriennummer	Calibration Certificate Number Kalibrierscheinnummer	Cal. Due Kalibr. bis
Signal Analyzer 20Hz...26,5GHz	FSQ26	201135	484346-D-K-15195-01-01-2018-10	2020-04-30
Signal Source Analyzer 50 GHz	FSUP50	101456	459066 D-K-15195-01-01 2018-04	2019-10-31
Modular Frequency System	MFS	6509/001	0515-D-K-15195-01-00-2017-01	2020-01-31
Therm. Power Sensor DC-18GHz	NRP-Z51	104653	466923-D-K-15195-01-01-2018-05	2019-11-30
Power Sensor 9kHz-6GHz	NRP-Z91	102702	441168-D-K-15195-01-00-2017-09	2019-03-31
Power Sensor 9kHz-6GHz	NRP-Z91	102689	441170-D-K-15195-01-00-2017-09	2019-03-31
RMS Peak-Voltmeter DC-30 MHz	URE3	100417	463366 D-K-15012-01-00 2018-04	2019-10-31
SWR Bridge 40kHz - 4GHz 50 Ohm	ZRC	100100	467531 D-K-15195-01-01 2018-06	2019-12-31
VSWR Probe 40 GHz	ZRP40	101133	472191 D-K-15195-01-01 2018-07	2019-07-31
Directional Coupler 2-18 GHz	773D	100034	448219-D-K-15195-01-01-2017-12	2019-06-30

UGB1 A compliance statement may be possible where a confidence level of less than 95 % is acceptable.

Die Bestätigung der Konformität ist möglich, sofern ein Grad des Vertrauens von weniger als 95 % akzeptabel ist.

UGB2 A non-compliance statement may be possible where a confidence level of less than 95 % is acceptable.

Die Bestätigung der Nicht-Konformität ist möglich, sofern ein Grad des Vertrauens von weniger als 95 % akzeptabel ist.

Ref.: ILAC-G8:03/2009 'Guidelines on the Reporting of Compliance with Specification'

Notes

Anmerkungen

Installed options are included in calibration. Depending on installed options, numbers of pages of the record are not consecutive.