



**FCC ID: BMTLPU1000
Confirmation # EA314481**

FCC TYPE ACCEPTANCE REPORT

For the

EMCEE LPU-1000 UHF Transmitter

14 July, 2009

**EMCEE Communications
1635 West 12th Place
Tempe, AZ 85281
480-315-1661**

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1.0 INTRODUCTION

This test report contains the required information for type acceptance of the EMCEE Model LPU-1000 UHF Transmitter. The data presented was taken from laboratory tests performed on a production transmitter system designed to transmit in the frequency range of 470-806 MHz at up to 100.0 Watts average power in digital mode or 100 Watts peak sync power in analog mode and utilized for operation in the UHF bands under FCC Rule Parts 73 and 74. The transmitter system design and test data reflect operation and performance pursuant to the rules as prescribed in Part 73 and Part 74 of the Commission's Rules.

2.0 CERTIFICATION OF DATA

I certify that the testing procedures and the accumulated test data contained in this report have been personally supervised by me, and that the test results are true and correct to the best of my knowledge and belief.



James A. Yard, CEO
EMCEE Communications

3.0 TEST EQUIPMENT

The following is a list of major test equipment which was used in testing the LPU-300 transmitter.

Manufacturer	Model #	Serial Number	Description
HP/Agilent	89431A	US39312280	VSA RF Section
HP/Agilent	89441A	US39313875	Vector Signal Analyzer
HP/Agilent	8753ES	US39171643	Vector Network Analyzer
HP/Agilent	E4433B	US38080113	Signal Generator
HP/Agilent	E4402B	US39010125	Spectrum Analyzer
HP/Agilent	E7405A	US39440172	EMC/Spectrum Analyzer
Tektronix	VM-700A	B030893	Video Measurement Test Set
Tektronix	1450-1	B011060	Precision Demodulator
Tektronix	TSG95	B028349	Video Generator
EMCEE	LPSMF-100	32499	Output Band Pass Filter
Narda	3020A	20dB	Directional Coupler
Narda Microwave	768-10	10dB	Attenuator
HP/Agilent	8903B	3514A15172	Audio Analyzer

4.0 MEASUREMENTS

4.1 RF POWER MEASUREMENTS

4.1.1 Analog RF Power Measurement

Figure 4-1 shows the test equipment setup for the analog RF power measurements.

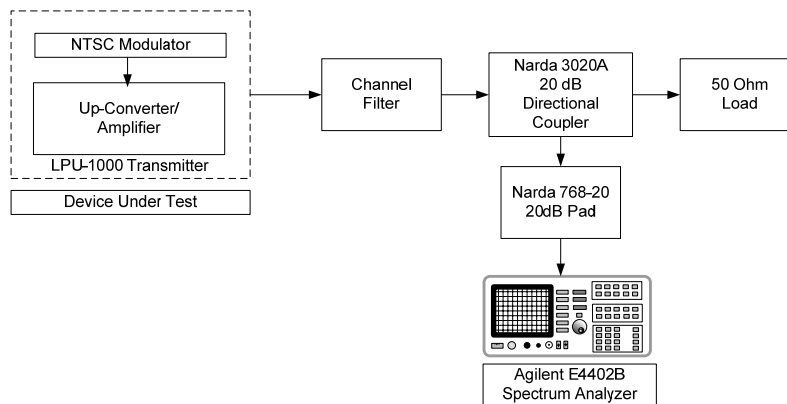


Figure 4-1: Test Setup for Analog Power Measurement

Method of Measurement:

The LPU-1000, modulated with color bars at 87.5%, was adjusted to obtain a 250 Watt Peak Visual (54dBm) and 12.5 Watt Aural (-13dB) measurement on the spectrum analyzer. The metering circuit was adjusted to obtain a 100% reading on the forward power meter. With the transmitter properly configured for analog operation and the peak visual power set to 100 Watts, all required tests were performed and the analog operation test data recorded in the following sections of the test report. The peak power measurement is shown in the spectrum analyzer plot in Figure 4-2.

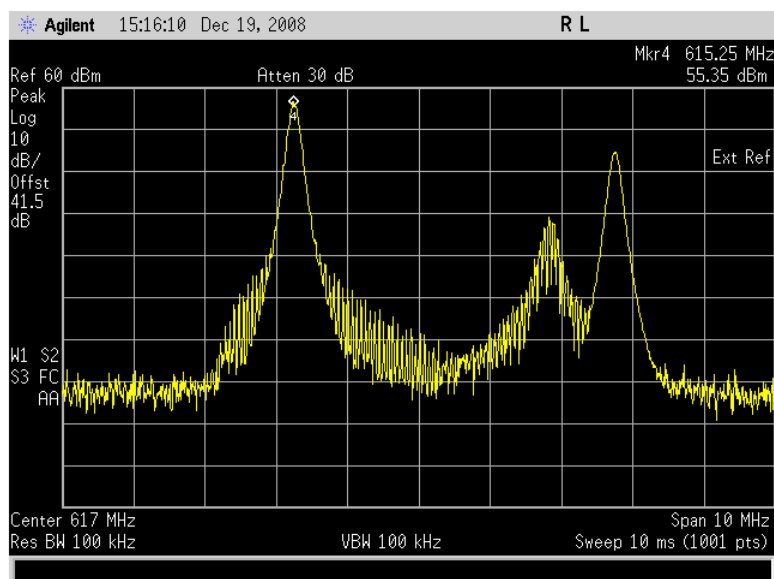


Figure 4-2: Analog Peak Power Measurement Plot

4.1.2 Digital RF Power Measurement

Figure 4-3 shows the test equipment setup for the digital RF power measurements.

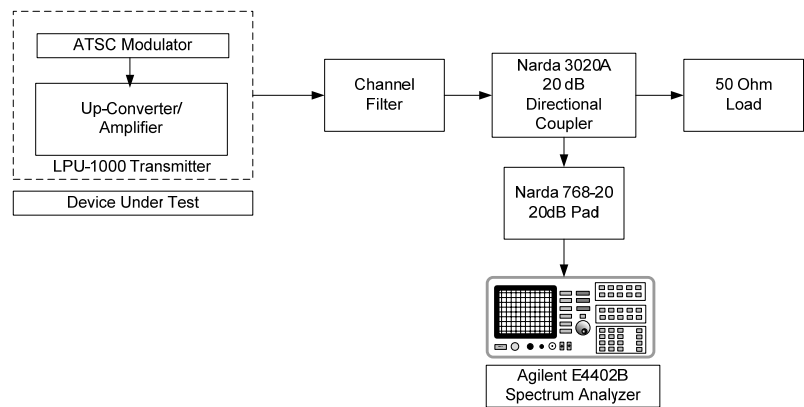


Figure 4-3: Test Setup for Digital Power Measurement

Method of Measurement:

The LPU-1000, modulated with a ATSC compliant 8VSB modulator, was adjusted to obtain a 100 Watt average channel power (50 dBm) measurement on the spectrum analyzer at the output of the mask filter. The metering circuit was adjusted to obtain a 100% reading on the forward power meter. With the transmitter properly configured for digital operation and the average power set to 100 Watts, all required tests were performed and the digital operation test data recorded in the following sections of the test report. The results of the digital power measurement test are shown in Figure 4-4.

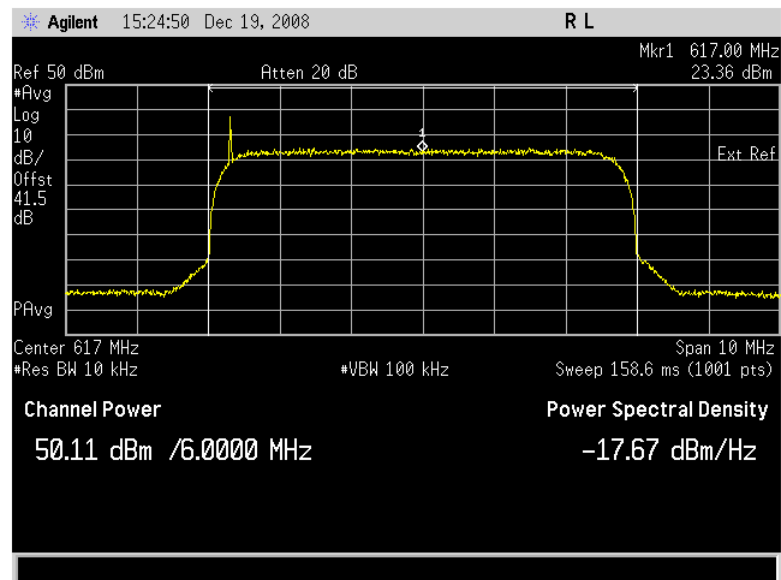


Figure 4-4: Digital Power Measurement Test

4.2 MODULATION CHARACTERISTICS

4.2.1.1 Analog Modulation Characteristics

Figure 4-5 shows the test equipment setup for the analog modulation characteristics measurements.

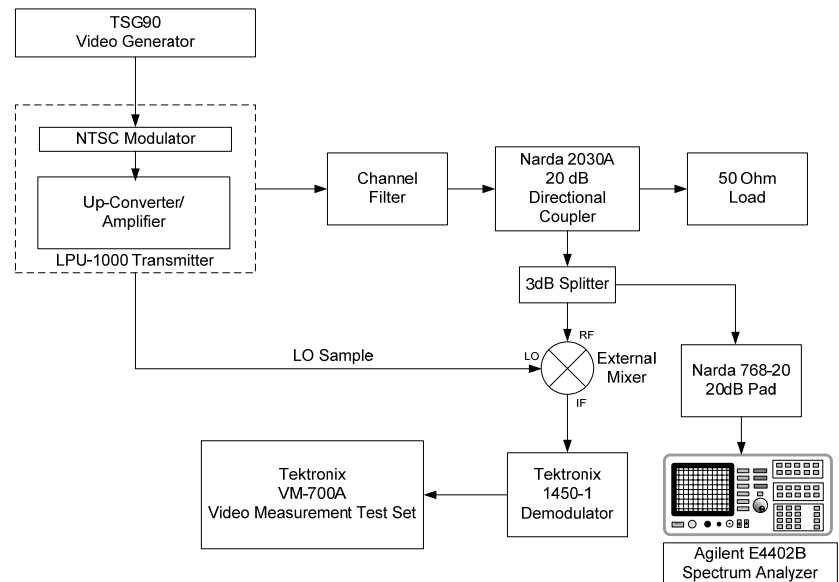


Figure 4-5: Test Setup for Analog Modulation Characteristics

The video signal generator shown in the setup depicted in Figure 4-5 was set to generate NTC color bars at a depth of modulation of 87.5%. Figure 4-6 shows the substantially linear frequency response characteristics of the transmitter in the demodulated video waveform shown on the VM700A measurement plot.

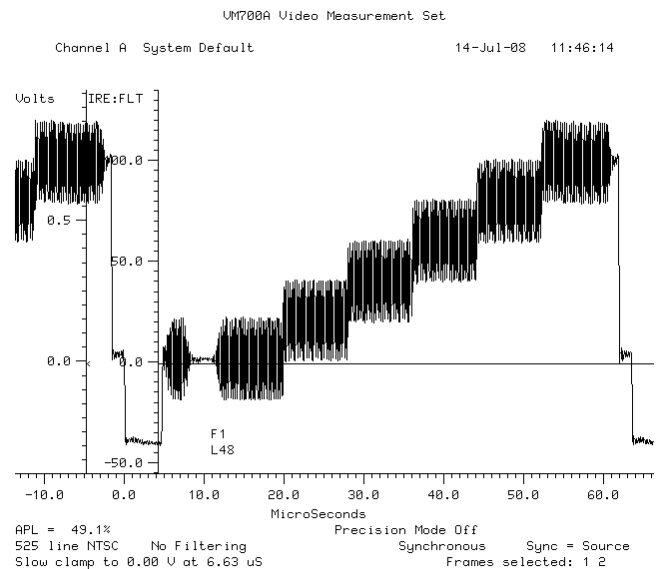


Figure 4-6: Substantially Linear Demodulated Video Waveform Plot

4.2.1.2 Video Envelope Delay

The video signal generator shown in the setup depicted in Figure 4-5 was set to generate a SinX/X test signal so that automated measurements can be made using the VM-700A. Figure 4-7 shows the group delay and gain characteristics of the transmitter in the demodulated video waveform shown on the VM700A measurement plot.

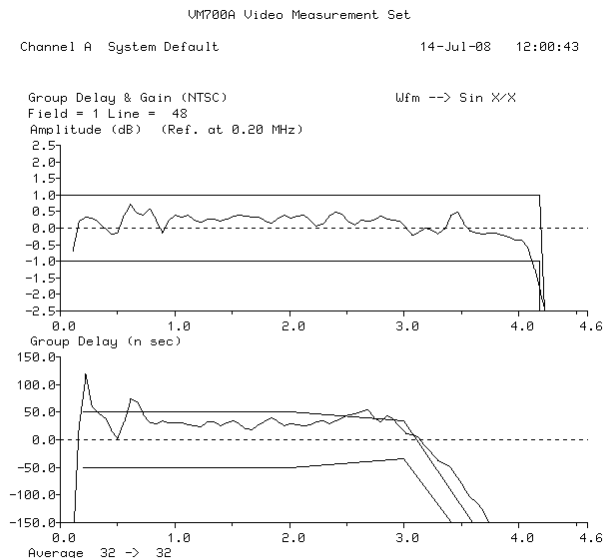


Figure 4-7 Group Delay & Gain Measurement Plot

4.2.1.3 Video Noise

The test setup in Figure 4-5 was used to measure the NTSC video noise spectrum on the VM700A. The noise level was observed to be -58.6 dB RMS as shown in Figure 4-8.

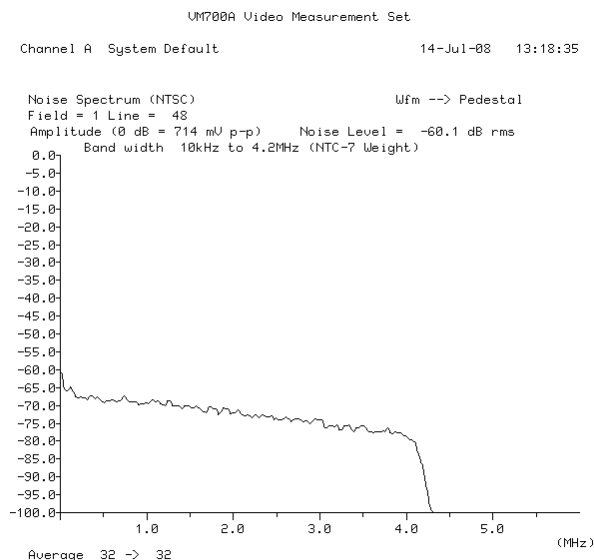


Figure 4-8: NTSC Noise Spectrum Plot

4.2.1.4 Differential Gain & Phase

Using the test setup shown in Figure 4-5 the differential gain and differential phase were measured and recorded. The differential gain was observed to be a maximum of 2.05% peak to peak as shown in Figure 4-9. The differential phase was observed to be a maximum of .97 degrees as shown in Figure 4-9.

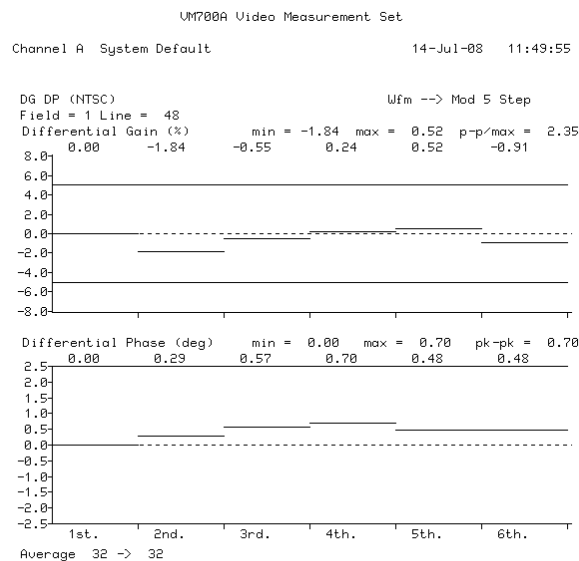


Figure 4-9: Differential Gain & Phase Plot

4.2.1.5 Audio Modulation

The FM audio response and distortion was measured using the test setup shown in Figure 4-10.

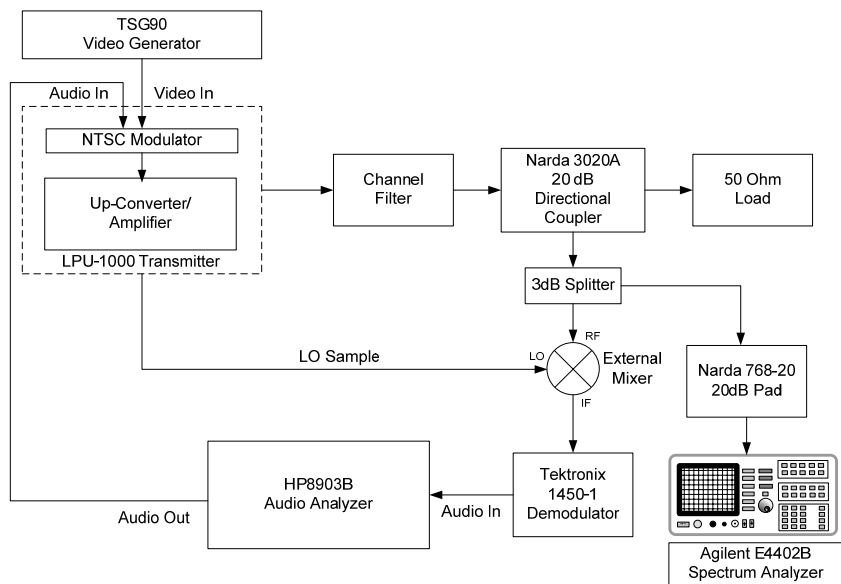


Figure 4-10: Test Setup for Measuring FM Response and Distortion

The transmitter and test equipment was set up to obtain a ± 25 KHz deviation with a 15 KHz tone. The audio frequency of the generator was then varied and the resultant measurements were recorded. The results are shown in Table 4-1.

Table 4-1: Audio Distortion Test Data

<i>Frequency</i>	<i>Distortion</i>
50Hz	.7%
100Hz	.8%
500Hz	.7%
1 KHz	.6%
5 KHz	.5%
10 KHz	.5%
15 KHz (Reference)	.5%

While maintaining a ± 25 KHz deviation, a reference tone of 1 KHz was established, then the audio input frequency and level were varied and the resultant measurements were recorded. The results are shown in Table 4-2.

Table 4-2: Audio Frequency Response Data

<i>Frequency</i>	<i>Response (Relative to 1 KHz)</i>
50Hz	-1.1dB
100Hz	-.7dB
500Hz	-.8dB
1 KHz	0dB (Reference)
2 KHz	+.7dB
3 KHz	+2.6dB
4 KHz	+5.4dB
5 KHz	+6.7dB
7 KHz	+9.4dB
10 KHz	+11.6dB
12 KHz	+13.7dB
15 KHz	+15.4dB

4.2.1.6 FM Noise

Using the test setup in Figure 4-10, the FM Noise was measured and found to be -60dB.

4.2.2 Digital Modulation Characteristics

4.2.2.1 Description of 8-VSB Digital Modulation

8-VSB is the RF modulation format utilized by the ATSC digital television standard to transmit digital bits over the airways to the home consumer. Since any terrestrial TV system must overcome numerous channel impairments such as ghosts, noise bursts, signal fades, and interference in order to reach the home viewer, the selection of the right RF modulation format is critical. Being one of the most crucial aspects of the DTV system, the 8-VSB format has received a great deal of attention and scrutiny recently. There are two fundamental technologies when describing the complete DTV system: 8-VSB and MPEG-2.

8-VSB is the RF modulation format and MPEG-2 is the video compression/packetization format. To convert high definition video into a form suitable for over-the-air broadcast, according to ATSC standards, two stages of processing are needed: MPEG-2 encoding and 8-VSB modulation. Accordingly, two major pieces of equipment are required: an MPEG-2 encoder and an 8-VSB modulator.

The MPEG-2 encoder accepts the baseband digital video and performs bit rate compression using the techniques of discrete cosine transform, run length coding and bi-directional motion prediction. The MPEG-2 encoder then multiplexes this compressed video information together with pre-coded Dolby Digital (AC-3) audio and any ancillary data that will be transmitted. The result is a stream of highly compressed MPEG-2 data packets with a data rate of only 19.39 Mbps. This 19.39 Mbps data stream is known as the DTV Transport Layer. It is output from the MPEG-2 encoder and input to the 8-VSB modulator.

The 8-VSB modulator receives the incoming MPEG-2 data packets and utilizes its own internal circuits to synchronize to the incoming signal. Before any signal processing can occur, the 8-VSB modulator must correctly identify the start and end points of each MPEG-2 data packet. This is accomplished using the MPEG-2 sync byte. MPEG-2 packets are 188 bytes in length with the first byte in each packet always being the sync byte. The MPEG-2 sync byte is then discarded; it will ultimately be replaced by the ATSC segment sync in a later stage of processing.

With the exception of the segment and field syncs, the 8-VSB bit stream must have a completely random, noise-like nature. This is because the transmitted signal frequency response must have a flat noise-like spectrum in order to use the allotted channel space with maximum efficiency. If the data contained repetitious patterns, the recurring rhythm of these patterns would cause the RF energy content of the output signal to "lump" together at certain discrete points of the frequency spectrum and thereby leaving gaps in other parts. This implies that certain parts of the six MHz channel would be over-used while other parts would be under-used. Also, the large concentrations of RF energy at certain modulating frequencies would be more likely to create discernible beat patterns in an NTSC television set when DTV-to-NTSC interference is experienced.

The modulator also incorporates a data randomizer and Reed-Solomon Encoder. In the data randomizer, each byte value is changed according to known pattern of pseudo-random number generation. This process is reversed in the receiver in order to recover the proper data values. Reed-Solomon encoding is a Forward Error Correction (FEC) scheme applied to the incoming data stream. Forward Error Correction is a general term used to describe a variety of techniques that can be used to correct bit errors that occur during transmission. Atmospheric noise, multipath propagation, signal fades, and transmitter nonlinearities may all create received bit errors. Forward Error Correction can detect and correct these errors, up to a reasonable limit. The Reed-Solomon encoder takes all 187 bytes of an incoming MPEG-2 data packet (the packet sync byte has been removed) and mathematically manipulates them as a block to create a sort of "digital sketch" of the block contents. This "sketch" occupies 20 additional bytes which are then tacked onto the end of the original 187 byte packet. These 20 bytes are known as Reed-Solomon parity bytes. The receiver will compare the received 187 byte block to the 20 parity bytes in order to determine the validity of the recovered data. If errors are detected, the receiver can use the parity "digital sketch" to locate the exact location of the errors, modify the disrupted bytes, and reconstruct the original information. Up to 10 byte errors per packet can be corrected

this way. If too many byte errors are present in a given packet, the parity "digital sketch" no longer resembles the received data block, the validity of the data can no longer be confirmed, and the entire MPEG-2 packet must be discarded.

The modulator also employs data interleaving and Trellis coding. The data interleaver disturbs the sequential order of the data stream and disperses the data throughout time (over a range of about 4.5 mSec through the use of memory buffers) in order to minimize the transmitted signal's sensitivity to burst-type interference. If a noise burst creates a hole in the signal during propagation and several milliseconds of data are lost, many different segments lose very few bits instead of one data segment losing all of its bits. This is known as time diversity. Data interleaving is done according to a known pattern; the process is reversed in the receiver in order to recover the proper data order.

Trellis coding is another form of Forward Error Correction. Unlike Reed-Solomon coding, which treats the entire MPEG-2 packet simultaneously as a block, trellis coding is an evolving code that tracks the progressing stream of bits as it develops through time. Accordingly, Reed-Solomon coding is known as a form of block code, while trellis coding is a convolutional code. For trellis coding, each 8-bit byte is split up into a stream of four, 2-bit words. In the trellis coder, each 2-bit word that arrives is compared to the past history of previous 2-bit words. A 3-bit binary code is mathematically generated to describe the transition from the previous 2-bit word to the current one. These 3-bit codes are substituted for the original 2-bit words and transmitted over-the-air as the eight level symbols of 8-VSB (3 bits = $2^3 = 8$ combinations or levels). For every two bits that go into the trellis coder, three bits come out. For this reason, the trellis coder in the 8-VSB system is said to be a 2/3 rate coder. The trellis decoder in the receiver uses the received 3-bit transition codes to reconstruct the evolution of the data stream from one 2-bit word to the next. In this way, the trellis coder follows a "trail" as the signal moves from one word to the next through time. The power of trellis coding lies in its ability to track a signal's history through time and discard potentially faulty information (errors) based on a signal's past and future behavior. This is somewhat like following one person's footsteps through the snow on a busy sidewalk. When the trail becomes confused with other tracks (i.e., errors are received), the trellis decoder has the ability to follow several possible "trails" for a few footprints and make a decision as to which prints are the correct ones. (Note: change this analogy to "footprints in the sand on a crowded beach" if you are reading this in a warm climate.)

The next step in the signal processing chain is the insertion of the various "helper" signals that aid the 8-VSB receiver in accurately locating and demodulating the transmitted RF signal. These are the ATSC pilot, segment sync, and frame sync. The pilot and sync signals are inserted after the data randomization, Reed-Solomon coding, data interleaving and trellis coding stages so as not to destroy the fixed time and amplitude relationships that these signals must possess in order to be effective. Recovering a clock signal in order to decode a received waveform has always been a tricky proposition in digital RF communications. If we derive the receiver clock from the recovered data, we have a sort of "chicken and egg" dilemma. The data must be sampled by the receiver clock in order to be accurately recovered. The receiver clock itself must be generated from accurately recovered data. The resulting clocking system quickly "crashes" when the noise or interference level rises to a point that significant data errors are received.

8-VSB employs sync pulses and residual carriers that allows the receiver to "lock" onto the incoming signal and begin decoding, even in the presence of heavy ghosting and high

noise levels. The first "helper" signal is the ATSC pilot. Just before modulation, a small DC shift is applied to the 8-VSB baseband signal (which was previously centered about zero volts with no DC component). This causes a small residual carrier to appear at the zero frequency point of the resulting modulated spectrum. This is the ATSC pilot. This gives the RF PLL circuits in the 8-VSB receiver something to lock onto that is independent of the data being transmitted. Although similar in nature to the visual carrier in an NTSC signal, the ATSC pilot is much smaller than the NTSC visual carrier, consuming only 0.3 dB or 7 percent of the transmitted power.

The other "helper" signals are the ATSC segment and frame syncs. An ATSC data segment is comprised of the 187 bytes of the original MPEG-2 data packet plus the 20 parity bytes added by the Reed-Solomon encoder. After trellis coding, our 207 byte segment has been stretched out into a stream of 828 8-level symbols. The ATSC segment sync is a repetitive four symbol (one byte) pulse that is added to the front of the data segment and replaces the missing first byte (packet sync byte) of the original MPEG-2 data packet. Correlation circuits in the 8-VSB receiver home in on the repetitive nature of the segment sync, which is easily contrasted against the background of completely random data. The recovered sync signal is used to generate the receiver clock and recover the data. Because of their repetitive nature and extended duration, the segment syncs are easy for the receiver to spot. The result is that accurate clock recovery can be had at noise and interference levels well above those where accurate data recovery is impossible (up to 0 dB SNR: data recovery requires at least 15 dB SNR). This allows for quick data recovery during channel changes and other transient conditions. An ATSC data segment is roughly analogous to an NTSC line; ATSC segment sync is somewhat like NTSC horizontal sync. Their duration and frequencies of repetition are, of course, completely different. Each ATSC segment sync lasts 0.37 msec.; NTSC sync lasts 4.7 msec. An ATSC data segment lasts 77.3 msec.; an NTSC line 63.6 msec. A careful inspection of the numbers involved reveals that the ATSC segment sync is somewhat more "slender" when compared to its NTSC counterpart. This is done to maximize the active data payload and minimize the time committed to sync "overhead." Three hundred and thirteen consecutive data segments are combined to make a data frame. The ATSC frame sync is an entire data segment that is repeated once per frame (24.2 msec.) and is roughly analogous to the NTSC vertical interval. (FYI: The NTSC vertical interval occurs once every 16.7 msec.). The ATSC frame sync has a known data symbol pattern and is used to "train" the adaptive ghost-canceling equalizer in the receiver. This is done by comparing the received signal with errors against the known reference of the frame sync. The resulting error vectors are used to adjust the taps of the receiver ghost canceling equalizer. Like the segment sync, the repetitive nature of the frame sync, and correlation techniques used in the 8-VSB receiver, allow frame sync recovery at very high noise and interference levels (up to 0 dB SNR). The robustness of the segment and frame sync signals permits accurate clock recovery and ghost-canceling operation in the 8-VSB receiver--even when the active data is completely corrupted by the presence of strong multipath distortion. This allows the adaptive ghost-canceling equalizer "to keep its head" and "hunt around in the mud" in order to recover a useable signal--even during the presence of strong signal echoes.

The eight-level baseband signal, with syncs and DC pilot shift added, is then amplitude modulated on an intermediate frequency (IF) carrier which is then fed to the transmitter up-converter. With traditional amplitude modulation, we generate a double sideband RF spectrum about the carrier frequency, with each RF sideband being the mirror image of the other. This represents redundant information and one sideband can be discarded without

any net information loss. This strategy was employed to some degree in creating the vestigial lower sideband in traditional NTSC analog television. In 8-VSB, this concept is taken to greater extremes with the lower RF sideband being almost completely removed. (Note: 8-VSB = 8 level-- Vestigial Side Band.)

(There are several different ways to implement the AM modulation, VSB filtering, and pilot insertion stages of the 8-VSB exciter, some of which are completely digital and involve direct digital synthesis of the required waveforms. All methods aim to achieve the same results at the exciter output. This particular arrangement was chosen in the interest of providing a clear, easily understandable, signal flow diagram.)

As a result of the data overhead added to the signal in the form of forward error correction coding and sync insertion, the data rate has gone from 19.39 Mbps at the exciter input to 32.28 Mbps at the output of the trellis coder. Since 3 bits are transmitted in each symbol of the 8-level 8-VSB constellation, the resulting symbol rate is $32\text{Mb}/3=10.76$ Million symbols/sec. By virtue of the Nyquist Theorem, we know that 10.76 Million symbols/sec can be transmitted in a VSB signal with a minimum frequency bandwidth of $1/2 \times 10.76 \text{ MHz} = 5.38 \text{ MHz}$. Since we are allotted a channel bandwidth of 6 MHz, we can relax the steepness of our VSB filter skirts slightly and still fall within the 6 MHz channel. This permissible excess bandwidth is 11.5 percent for the ATSC 8-VSB system. That is, $5.38 \text{ MHz (minimum bandwidth per Nyquist)} + 620 \text{ kHz (11.5 percent excess bandwidth)} = 6.00 \text{ MHz (channel bandwidth used)}$. This virtual elimination of the lower sideband, along with the narrowband filtering of the upper sideband, creates very significant changes in the RF waveform that is ultimately transmitted.

Following is a description of the 8-VSB Signal Constellation. In 8-VSB, the digital information is transmitted exclusively in the amplitude of the RF envelope and not in the phase. This is unlike other digital modulation formats such as 8-VSB, where each point in the signal constellation is a certain vector combination of carrier amplitude and phase. This is not possible in 8-VSB since the carrier phase is no longer an independent variable, as it is lost in suppressing the vestigial lower sideband. The resulting 8-VSB signal constellation is shown in figure 4-11.

The eight modulation levels are recovered by sampling an in-phase (I channel) synchronous detector. Nothing would be gained by sampling a quadrature channel detector since no useful information is contained in this channel. The signal constellation diagram is therefore a series eight vertical lines that correspond to the eight transmitted amplitude levels. By eliminating any dependence on the Q-channel, the 8-VSB receiver need only process the I channel, thereby cutting in half the number of DSP circuits required in certain stages. The result is greater simplicity, and ultimately cost savings, in the receiver design.

After the Nyquist VSB filter, the 8-VSB IF signal is then up-converted in the transmitter up-converter, by traditional PLL oscillator-mixer-filter circuits, to the assigned channel frequency in the UHF band. The on-channel RF output of the up-converter is then supplied to the power amplifiers for amplification to the specified output power. A transmitter output filter (mask filter), filters the transmitter output signal and suppresses any spurious out-of-band signals caused by transmitter nonlinearities.

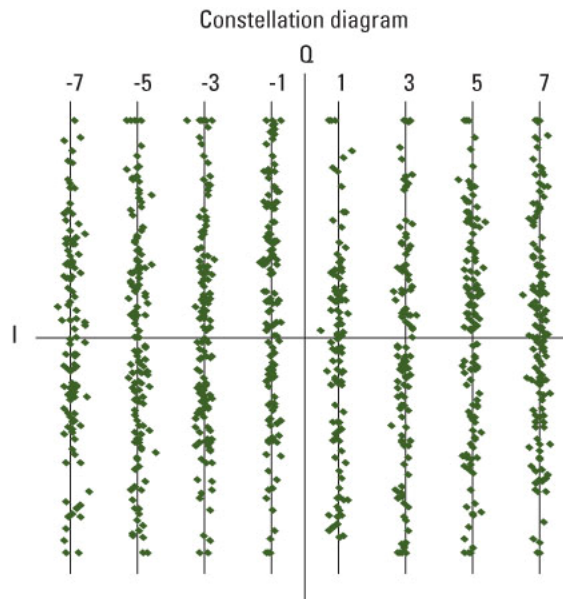


Figure 4-11: 8-VSB Constellation Diagram

4.2.2.2 Demodulated Digital Performance Characteristics

Method of Measurement:

Using the test setup shown in Figure 4-12, tests were performed to measure the performance linearity of the transmitter in digital mode. The results of the test are shown in the vector signal analyzer plot as shown in Figure 4-13. The tests revealed that the transmitter operates with very low distortion (<2% RMS EVM) and with a very high SNR, >35dB.

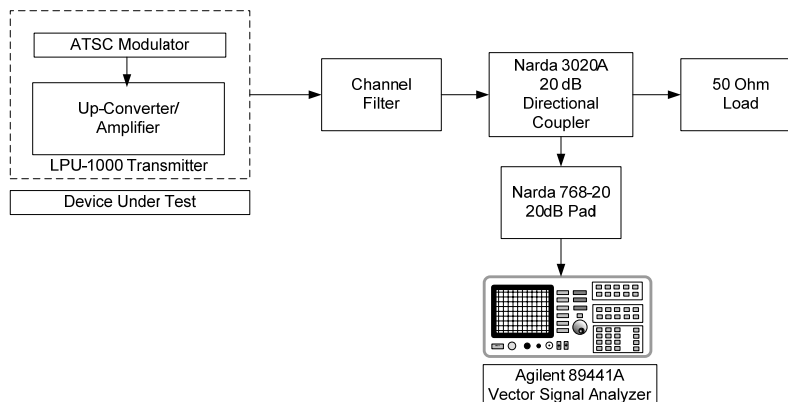


Figure 4-12: Digital Demodulation Test Setup

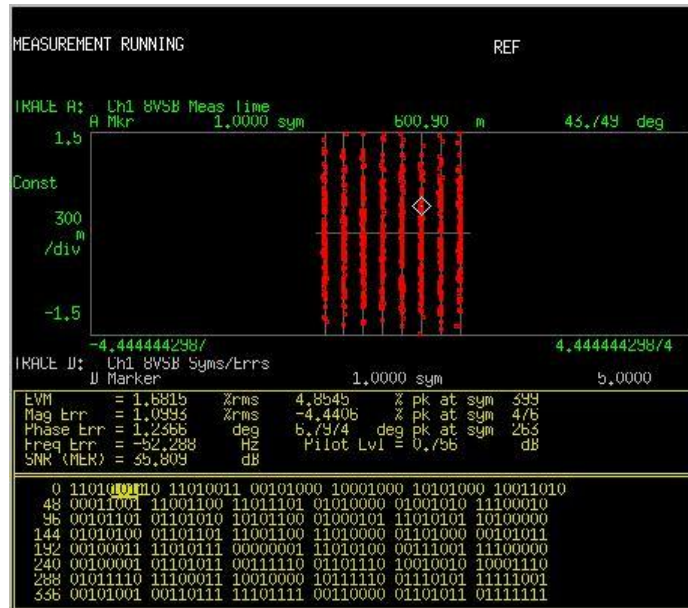


Figure 4-13: Digital Demodulation Test Results

4.3 OCCUPIED BANDWIDTH

4.3.1 Modulation Channel Occupancy

4.3.1.1 Digital Operation vs. Analog (NTSC) Operation:

The digital modulation occupancy of 8-VSB is 5.38 MHz measured at the -3 dB roll-off points. This is shown below as compared to a standard NTSC vestigial sideband signal in a standard 6 MHz channel. The 8-VSB signal employs a suppressed carrier modulation with a uniform power spectral density as opposed to the usual system M/N (NTSC) signal with separate analog visual, chroma, and aural carriers. A comparison between Analog and Digital occupied bandwidth is shown in Figure 4-12.

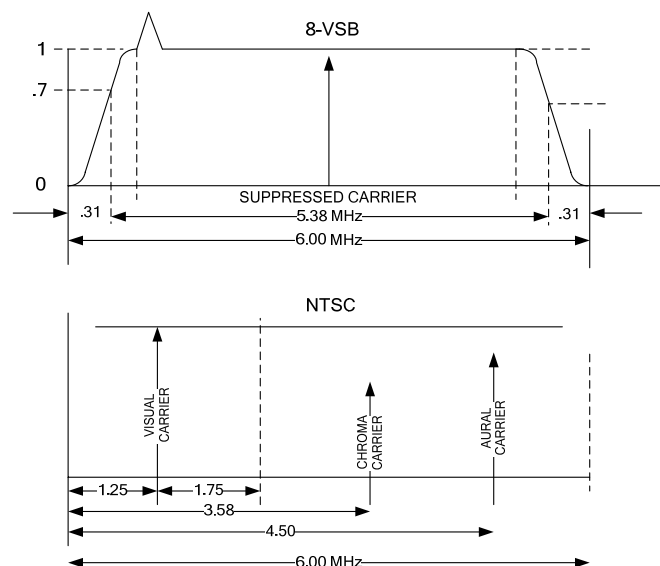


Figure 4-12: Digital & Analog modulation occupancy

4.3.2 Occupied Bandwidth in Analog Operation

Using the test setup in Figure 4-1, the spectrum analyzer was used to capture the occupied bandwidth spectrum of the transmitter in analog operation. The results of the test are shown in Figure 4-13.

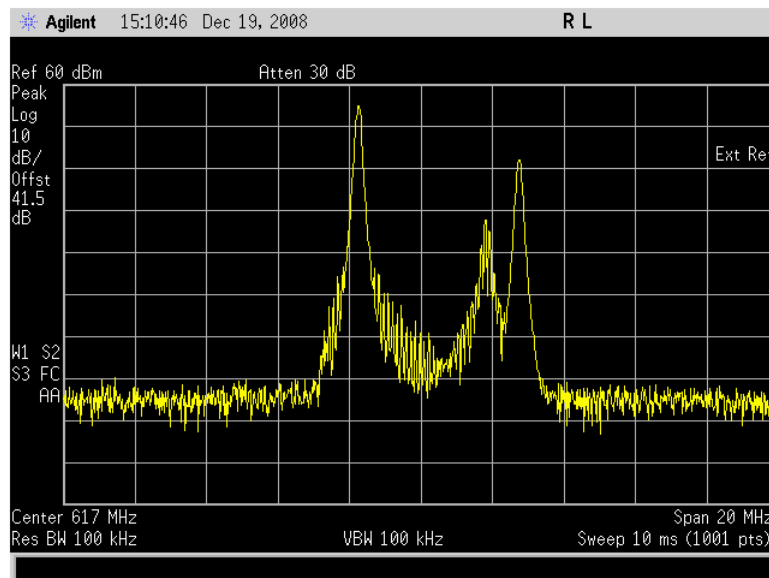


Figure 4-13: Occupied Bandwidth Plot in Analog Operation

4.3.3 Occupied Bandwidth in Digital Operation

Using the test setup in Figure 4-3, the spectrum analyzer was used to capture the occupied bandwidth spectrum of the transmitter in digital operation. The results of the test are shown in Figure 4-14.

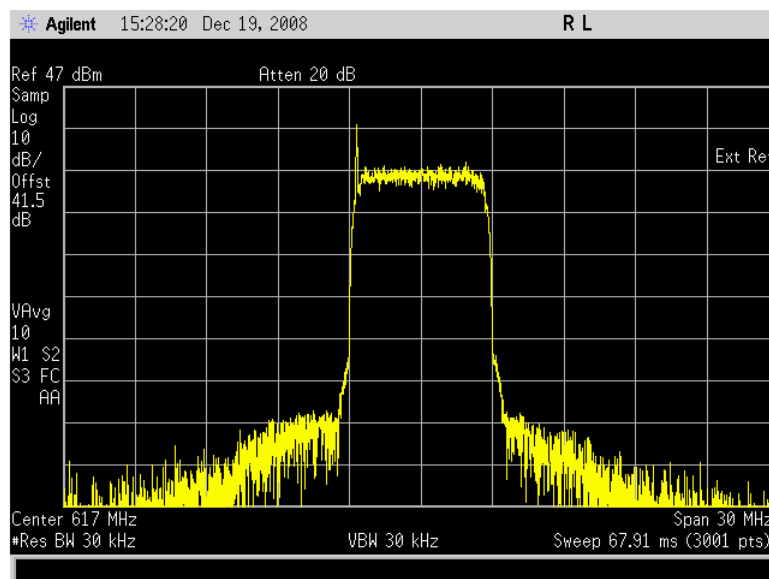


Figure 4-14: Occupied Bandwidth Plot in Digital Operation

4.4 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Method of Measurement:

Using the test setup in Figure 4-3, the spectrum outside the desired channel was observed and the data was recorded on all spurious above the -60 dB noise floor of the spectrum analyzer as shown in Figure 4-15. The spurious emissions were observed on the analyzer at a span of 2 GHz. With the average in band signal of the desired channel of 617 MHz set as the reference, the spurious emissions were observed. The measured data is shown in the table 4-3 for 100 Watts average output power.

Table 4-3 Products above the -60dB Analyzer Noise Floor

FREQUENCY (MHz)	SOURCE	PEAK LEVEL (dB)
617	Reference Channel	0dB Reference
10	10 MHz Reference	None Observed
44	IF Frequency	None Observed
422	1 st LO	None Observed
466	1 st Conversion Output	None Observed
1688	2 nd LO	None Observed
2154	2 nd Conversion Output	None Observed
2771	3 rd LO	None Observed
1234	2 nd Harmonic	None Observed
1851	3 rd Harmonic	None Observed
2468	4 th Harmonic	None Observed
3085	5 th Harmonic	None Observed
3702	6 th Harmonic	None Observed
4319	7 th Harmonic	None Observed
4936	8 th Harmonic	None Observed
5553	9 th Harmonic	None Observed
6170	10 th Harmonic	None Observed

Using the test setup in Figure 4-3, the spectrum analyzer was used to capture the spurious output spectrum of the transmitter in digital operation. The results of the test are shown in Figure 4-15.

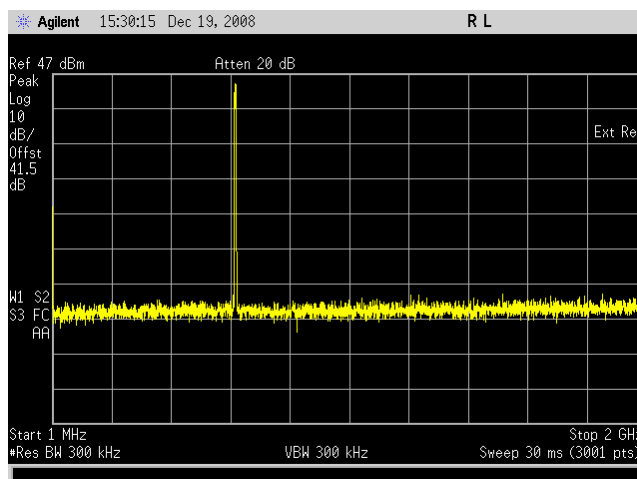


Figure 4-15: Spurious Emissions Spectrum Analyzer Plot

4.4.1 Spurious Emissions Tests with Digital Modulation

Part §74.794 of the Commission's Rules states:

§74.794 (a)(1) An applicant for a digital LPTV or TV translator station construction permit shall specify that the station will be constructed to confine out-of-channel emissions within one of the following emission masks: simple or stringent.

§74.794 (a)(2) The power level of emissions on frequencies outside the authorized channel of operation must be attenuated no less than following amounts below the average transmitted power within the authorized 6 MHz channel. In the mask specifications listed in § 74.794(a)(2) and (a)(3), A is the attenuation in dB and Δf is the frequency difference in MHz from the edge of the channel.

(i) Simple mask. At the channel edges, emissions must be attenuated no less than 46 dB. More than 6 MHz from the channel edges, emissions must be attenuated no less than 71 dB. At any frequency between 0 and 6 MHz from the channel edges, emissions must be attenuated no less than the value determined by the following formula: $A \text{ (dB)} = 46 + (\Delta f^2 / 1.44)$

(ii) Stringent mask. In the first 500 kHz from the channel edges, emissions must be attenuated no less than 47 dB. More than 3 MHz from the channel edges, emissions must be attenuated no less than 76 dB. At any frequency between 0.5 and 3 MHz from the channel edges, emissions must be attenuated no less than the value determined by the following formula: $A(\text{dB}) = 47 + 11.5 (\Delta f - 0.5)$

§74.794(a)(3) The attenuation values for the simple and stringent emission masks are based on a measurement bandwidth of 500 kHz. Other measurement bandwidths may be used and converted to the reference 500 kHz value by the following formula:

$$A(\text{dB}) = A_{\text{alternate}} + 10 \log (BW_{\text{alternate}} / 500)$$

where A(dB) is the measured or calculated attenuation value for the reference 500 kHz bandwidth, and $A_{\text{alternate}}$ is the measured or calculated attenuation for a bandwidth $BW_{\text{alternate}}$. Emissions include sidebands, spurious emissions and radio harmonics. Attenuation is to be measured at the output terminals of the transmitter (including any filters that may be employed). In the event of interference caused to any service by out-of-channel emissions, greater attenuation may be required.

(b) In addition to meeting the emission attenuation requirements of the simple or stringent mask (including attenuation of radio frequency harmonics), digital low power TV and TV translator stations authorized to operate on TV channels 22–24, (518–536 MHz), 32–36 (578–608 MHz), 38 (614–620 MHz), and 65–69 (776–806 MHz) must provide specific “out of band” protection to Radio Navigation Satellite Services in the bands: L5 (1164–1215 MHz); L2 (1215–1240 MHz) and L1 (1559–1610 MHz).

(1) An FCC-certificated transmitter specifically certified for use on one or more of the above channels must include filtering with an attenuation of not less than 85 dB in the GPS bands, which will have the effect of reducing harmonics in the GPS bands from what is produced by the digital transmitter, and this attenuation must be demonstrated as part of the certification application to the Commission.

Method of Measurement:

With regard to measurements specified by FCC §74.794(*et al.*), a 10 KHz resolution measurement bandwidth has been chosen so as to provide for the most accurate measurement of the out of band emissions. Frequencies out to 12 MHz above and below the desired channel were measured. The amount of out-of-band power in 10 KHz increments relative to the transmitter output power can be automatically measured by the channel power function of the 4402B Spectrum Analyzer integrated into a 10 KHz bandwidth. With an 8-VSB digital modulation, the out of band emissions were sampled at 10KHz increments inside and outside of the desired channel, and no emissions above either the simple or stringent emission masks relative to the average carrier power were observed.

The test setup in Figure 4-11 was used to obtain the measurements recorded into Table 4-4, Column 2.

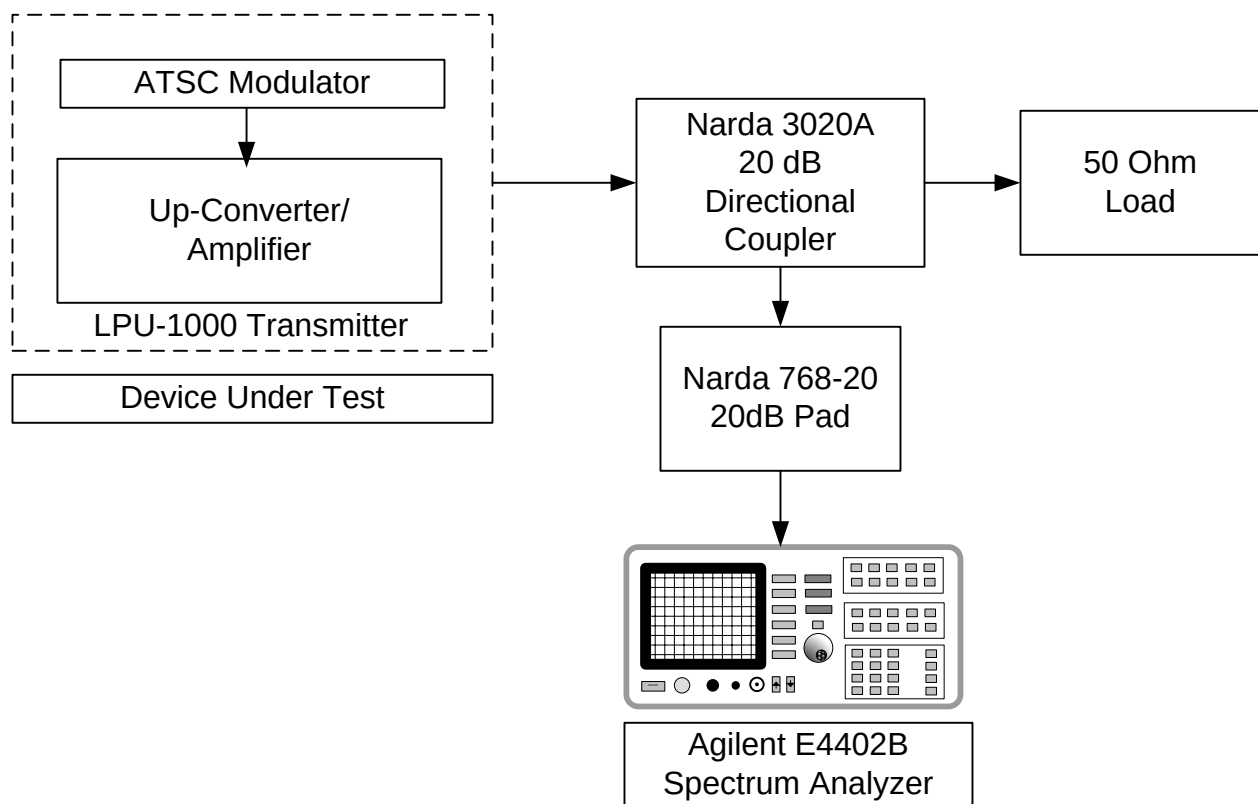


Figure 4-11: Output Filter Measurement Setup

The performance of the mask (output) filter was also measured and the resultant data was recorded into Table 4-4, Column 3, for its attenuation vs. frequency. The test equipment setup for measuring the output filter is shown in Figure 4-12.

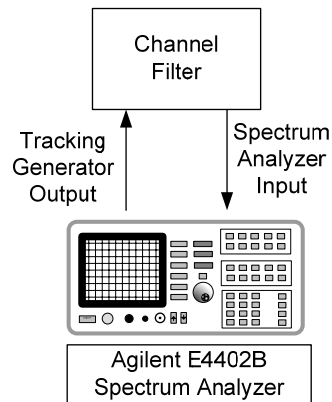


Figure 4-12: Output Filter Measurement Setup

Column 4 of Table 4-4 is the combined spectral power output of the transmitter and mask filter relative to the average in-band power of 50dBm as measured in a 10 KHz RBW. Column 5 is the spectral output of the combination of the transmitter and filter corrected to a 500 KHz resolution bandwidth (per §74.794(a)(3)). Columns 6 and 7 of Table 4-4 are the output simple and stringent mask boundaries as defined by §74.794 (a)(2) (i) and (ii) respectively.

When the data in Columns 5, 6, and 7 are plotted, the transmitter spectral performance may be observed (see Figure 4-13) against the simple mask (green line) and stringent mask (red line). It is apparent that in no case does the transmitter exceed either output mask.

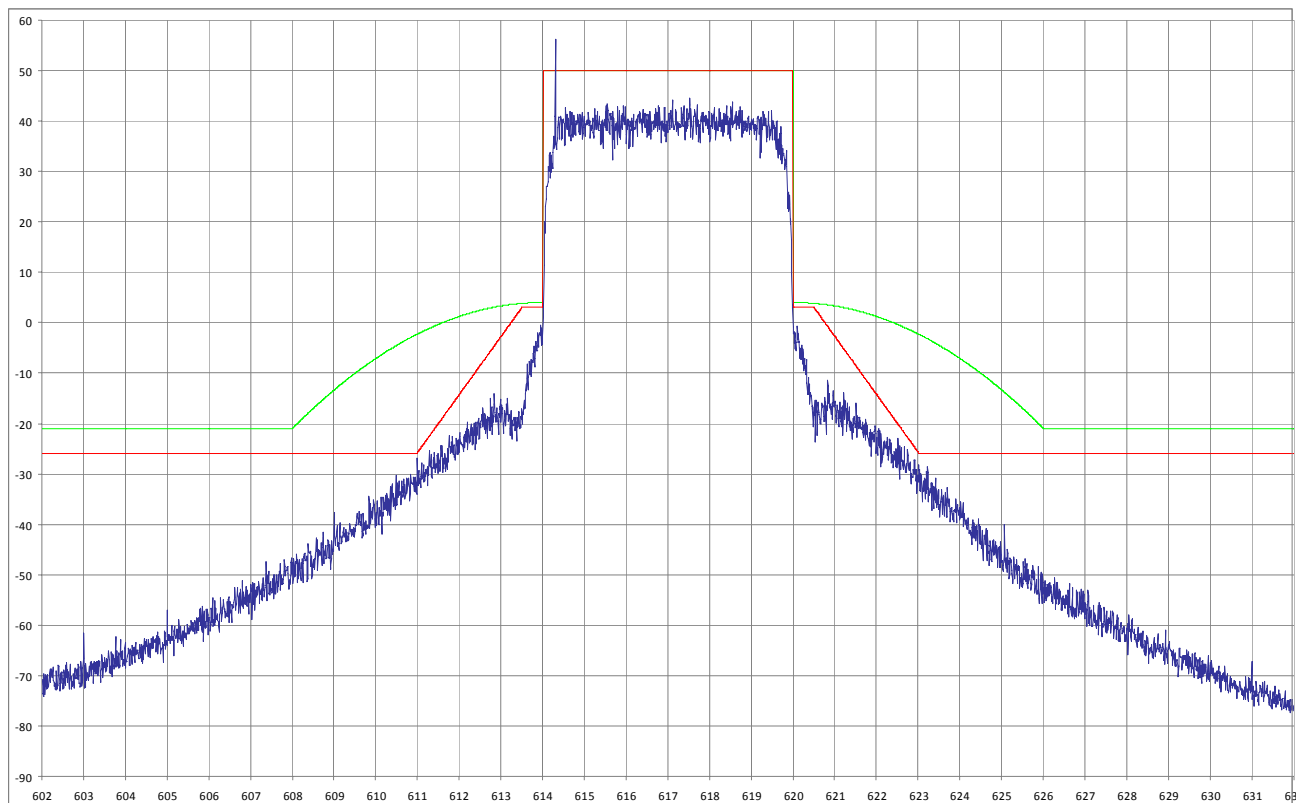


Figure 4-13: Spectral Output Compared To Mask Boundaries

Table 4-4: Spurious Emissions for Digital Operations

Measurement Center Frequency	TX Output No Filter	Band-Pass Filter Response	Combined Transmitter+ Filter Output	TX Output Corrected to 500KHz Res BW	Simple Mask Boundary	Stringent Mask Boundary
-12 MHz From Channel Edge						
602.000	-25.21	-58.983	-84.196	-71.986	-20.9745	-25.9745
602.010	-24.06	-59.004	-83.067	-70.857	-20.9745	-25.9745
602.020	-26.90	-58.885	-85.785	-73.575	-20.9745	-25.9745
602.030	-27.36	-59.068	-86.432	-74.222	-20.9745	-25.9745
602.040	-26.25	-58.749	-85.002	-72.792	-20.9745	-25.9745
602.050	-23.09	-58.737	-81.828	-69.618	-20.9745	-25.9745
602.060	-24.87	-58.829	-83.697	-71.487	-20.9745	-25.9745
602.070	-26.91	-58.998	-85.911	-73.701	-20.9745	-25.9745
602.080	-23.31	-58.721	-82.035	-69.825	-20.9745	-25.9745
602.090	-24.05	-58.872	-82.920	-70.710	-20.9745	-25.9745
602.100	-26.07	-58.828	-84.901	-72.691	-20.9745	-25.9745
602.110	-25.37	-58.962	-84.334	-72.124	-20.9745	-25.9745
602.120	-23.68	-58.76	-82.437	-70.227	-20.9745	-25.9745
602.130	-23.16	-58.904	-82.067	-69.857	-20.9745	-25.9745
602.140	-26.10	-58.621	-84.716	-72.506	-20.9745	-25.9745
602.150	-25.73	-58.57	-84.297	-72.087	-20.9745	-25.9745
602.160	-25.39	-58.675	-84.069	-71.859	-20.9745	-25.9745
602.170	-23.82	-58.467	-82.287	-70.077	-20.9745	-25.9745
602.180	-23.29	-58.563	-81.857	-69.647	-20.9745	-25.9745
602.190	-22.54	-58.388	-80.924	-68.714	-20.9745	-25.9745
602.200	-25.04	-58.535	-83.575	-71.365	-20.9745	-25.9745
602.210	-24.69	-58.469	-83.163	-70.953	-20.9745	-25.9745
602.220	-22.55	-58.384	-80.930	-68.720	-20.9745	-25.9745
602.230	-22.90	-58.497	-81.393	-69.183	-20.9745	-25.9745
602.240	-24.19	-58.423	-82.609	-70.399	-20.9745	-25.9745
602.250	-23.54	-58.474	-82.015	-69.805	-20.9745	-25.9745
602.260	-22.28	-58.263	-80.540	-68.330	-20.9745	-25.9745
602.270	-24.69	-58.543	-83.231	-71.021	-20.9745	-25.9745
602.280	-25.21	-58.405	-83.612	-71.402	-20.9745	-25.9745
602.290	-25.73	-58.481	-84.211	-72.001	-20.9745	-25.9745
602.300	-25.91	-58.412	-84.323	-72.113	-20.9745	-25.9745
602.310	-25.21	-58.45	-83.664	-71.454	-20.9745	-25.9745
602.320	-26.49	-58.379	-84.867	-72.657	-20.9745	-25.9745
602.330	-26.68	-58.337	-85.021	-72.811	-20.9745	-25.9745
602.340	-23.41	-57.966	-81.379	-69.169	-20.9745	-25.9745
602.350	-25.90	-58.271	-84.171	-71.961	-20.9745	-25.9745
602.360	-26.68	-58.113	-84.797	-72.587	-20.9745	-25.9745
602.370	-26.49	-58.18	-84.673	-72.463	-20.9745	-25.9745

602.380	-25.91	-58.195	-84.104	-71.894	-20.9745	-25.9745
602.390	-22.01	-58.087	-80.095	-67.885	-20.9745	-25.9745
602.400	-22.26	-58.12	-80.376	-68.166	-20.9745	-25.9745
602.410	-23.80	-58.178	-81.981	-69.771	-20.9745	-25.9745
602.420	-25.73	-57.945	-83.673	-71.463	-20.9745	-25.9745
602.430	-27.13	-58.094	-85.219	-73.009	-20.9745	-25.9745
602.440	-23.82	-57.907	-81.728	-69.518	-20.9745	-25.9745
602.450	-25.75	-58.082	-83.829	-71.619	-20.9745	-25.9745
602.460	-23.81	-58.056	-81.862	-69.652	-20.9745	-25.9745
602.470	-23.67	-58.023	-81.691	-69.481	-20.9745	-25.9745
602.480	-23.43	-58.103	-81.535	-69.325	-20.9745	-25.9745
602.490	-25.90	-57.912	-83.815	-71.605	-20.9745	-25.9745
602.500	-26.92	-57.902	-84.826	-72.616	-20.9745	-25.9745
602.510	-24.86	-57.86	-82.724	-70.514	-20.9745	-25.9745
602.520	-26.92	-57.769	-84.693	-72.483	-20.9745	-25.9745
602.530	-23.41	-57.623	-81.035	-68.825	-20.9745	-25.9745
602.540	-24.55	-57.782	-82.328	-70.118	-20.9745	-25.9745
602.550	-25.57	-57.793	-83.359	-71.149	-20.9745	-25.9745
602.560	-26.10	-57.991	-84.093	-71.883	-20.9745	-25.9745
602.570	-22.35	-57.843	-80.191	-67.981	-20.9745	-25.9745
602.580	-24.88	-57.707	-82.590	-70.380	-20.9745	-25.9745
602.590	-21.92	-57.718	-79.636	-67.426	-20.9745	-25.9745
602.600	-25.91	-57.683	-83.595	-71.385	-20.9745	-25.9745
602.610	-23.43	-57.755	-81.180	-68.970	-20.9745	-25.9745
602.620	-24.52	-57.524	-82.048	-69.838	-20.9745	-25.9745
602.630	-23.82	-57.744	-81.562	-69.352	-20.9745	-25.9745
602.640	-24.71	-57.566	-82.277	-70.067	-20.9745	-25.9745
602.650	-27.35	-57.51	-84.860	-72.650	-20.9745	-25.9745
602.660	-25.91	-57.606	-83.513	-71.303	-20.9745	-25.9745
602.670	-22.36	-57.59	-79.953	-67.743	-20.9745	-25.9745
602.680	-24.54	-57.457	-82.000	-69.790	-20.9745	-25.9745
602.690	-26.10	-57.308	-83.406	-71.196	-20.9745	-25.9745
602.700	-25.05	-57.409	-82.460	-70.250	-20.9745	-25.9745
602.710	-27.59	-57.317	-84.909	-72.699	-20.9745	-25.9745
602.720	-26.09	-57.238	-83.327	-71.117	-20.9745	-25.9745
602.730	-26.92	-57.376	-84.299	-72.089	-20.9745	-25.9745
602.740	-26.69	-57.207	-83.893	-71.683	-20.9745	-25.9745
602.750	-24.54	-57.307	-81.846	-69.636	-20.9745	-25.9745
602.760	-27.13	-57.463	-84.597	-72.387	-20.9745	-25.9745
602.770	-26.70	-57.318	-84.013	-71.803	-20.9745	-25.9745
602.780	-25.20	-57.28	-82.481	-70.271	-20.9745	-25.9745
602.790	-23.44	-57.237	-80.676	-68.466	-20.9745	-25.9745
602.800	-25.75	-57.09	-82.838	-70.628	-20.9745	-25.9745
602.810	-25.56	-57.245	-82.809	-70.599	-20.9745	-25.9745
602.820	-25.56	-57.148	-82.703	-70.493	-20.9745	-25.9745
602.830	-23.67	-57.148	-80.822	-68.612	-20.9745	-25.9745

602.840	-24.18	-57.051	-81.233	-69.023	-20.9745	-25.9745
602.850	-25.90	-57.086	-82.985	-70.775	-20.9745	-25.9745
602.860	-24.55	-57.141	-81.689	-69.479	-20.9745	-25.9745
602.870	-23.09	-56.876	-79.962	-67.752	-20.9745	-25.9745
602.880	-23.69	-56.888	-80.582	-68.372	-20.9745	-25.9745
602.890	-26.69	-57.066	-83.758	-71.548	-20.9745	-25.9745
602.900	-26.71	-57.103	-83.809	-71.599	-20.9745	-25.9745
602.910	-27.62	-56.972	-84.587	-72.377	-20.9745	-25.9745
602.920	-27.14	-56.965	-84.100	-71.890	-20.9745	-25.9745
602.930	-22.72	-56.757	-79.477	-67.267	-20.9745	-25.9745
602.940	-25.22	-56.843	-82.067	-69.857	-20.9745	-25.9745
602.950	-25.22	-56.882	-82.097	-69.887	-20.9745	-25.9745
602.960	-27.38	-56.912	-84.291	-72.081	-20.9745	-25.9745
602.970	-26.49	-56.632	-83.126	-70.916	-20.9745	-25.9745
602.980	-24.06	-56.724	-80.787	-68.577	-20.9745	-25.9745
602.990	-22.01	-56.79	-78.801	-66.591	-20.9745	-25.9745
603.000	-16.85	-56.823	-73.672	-61.462	-20.9745	-25.9745
603.010	-27.13	-56.764	-83.896	-71.686	-20.9745	-25.9745
603.020	-28.08	-56.649	-84.726	-72.516	-20.9745	-25.9745
603.030	-23.94	-56.501	-80.440	-68.230	-20.9745	-25.9745
603.040	-27.84	-56.642	-84.478	-72.268	-20.9745	-25.9745
603.050	-23.17	-56.62	-79.793	-67.583	-20.9745	-25.9745
603.060	-25.22	-56.607	-81.828	-69.618	-20.9745	-25.9745
603.070	-26.70	-56.564	-83.268	-71.058	-20.9745	-25.9745
603.080	-25.21	-56.479	-81.690	-69.480	-20.9745	-25.9745
603.090	-25.39	-56.501	-81.890	-69.680	-20.9745	-25.9745
603.100	-26.69	-56.396	-83.085	-70.875	-20.9745	-25.9745
603.110	-26.25	-56.524	-82.773	-70.563	-20.9745	-25.9745
603.120	-26.28	-56.35	-82.628	-70.418	-20.9745	-25.9745
603.130	-23.92	-56.417	-80.341	-68.131	-20.9745	-25.9745
603.140	-26.10	-56.407	-82.505	-70.295	-20.9745	-25.9745
603.150	-24.06	-56.535	-80.594	-68.384	-20.9745	-25.9745
603.160	-23.18	-56.445	-79.622	-67.412	-20.9745	-25.9745
603.170	-23.10	-56.357	-79.453	-67.243	-20.9745	-25.9745
603.180	-25.91	-56.302	-82.214	-70.004	-20.9745	-25.9745
603.190	-23.56	-56.118	-79.681	-67.471	-20.9745	-25.9745
603.200	-23.95	-56.177	-80.124	-67.914	-20.9745	-25.9745
603.210	-24.88	-56.087	-80.964	-68.754	-20.9745	-25.9745
603.220	-23.69	-56.143	-79.836	-67.626	-20.9745	-25.9745
603.230	-27.60	-56.183	-83.783	-71.573	-20.9745	-25.9745
603.240	-23.57	-55.873	-79.442	-67.232	-20.9745	-25.9745
603.250	-24.70	-56.09	-80.793	-68.583	-20.9745	-25.9745
603.260	-25.38	-56.078	-81.461	-69.251	-20.9745	-25.9745
603.270	-23.54	-56.031	-79.574	-67.364	-20.9745	-25.9745
603.280	-25.91	-56.036	-81.942	-69.732	-20.9745	-25.9745
603.290	-25.40	-55.998	-81.395	-69.185	-20.9745	-25.9745

603.300	-25.21	-56.042	-81.254	-69.044	-20.9745	-25.9745
603.310	-23.54	-55.929	-79.472	-67.262	-20.9745	-25.9745
603.320	-25.90	-55.991	-81.892	-69.682	-20.9745	-25.9745
603.330	-23.55	-55.908	-79.458	-67.248	-20.9745	-25.9745
603.340	-26.25	-55.976	-82.228	-70.018	-20.9745	-25.9745
603.350	-23.29	-55.912	-79.205	-66.995	-20.9745	-25.9745
603.360	-23.95	-55.76	-79.712	-67.502	-20.9745	-25.9745
603.370	-24.36	-55.965	-80.328	-68.118	-20.9745	-25.9745
603.380	-23.69	-55.76	-79.446	-67.236	-20.9745	-25.9745
603.390	-24.07	-55.682	-79.749	-67.539	-20.9745	-25.9745
603.400	-27.85	-55.781	-83.626	-71.416	-20.9745	-25.9745
603.410	-25.40	-55.815	-81.217	-69.007	-20.9745	-25.9745
603.420	-25.21	-55.774	-80.984	-68.774	-20.9745	-25.9745
603.430	-24.71	-55.797	-80.503	-68.293	-20.9745	-25.9745
603.440	-22.45	-55.64	-78.093	-65.883	-20.9745	-25.9745
603.450	-24.37	-55.596	-79.966	-67.756	-20.9745	-25.9745
603.460	-26.93	-55.595	-82.526	-70.316	-20.9745	-25.9745
603.470	-24.38	-55.625	-80.004	-67.794	-20.9745	-25.9745
603.480	-23.81	-55.711	-79.524	-67.314	-20.9745	-25.9745
603.490	-24.86	-55.586	-80.447	-68.237	-20.9745	-25.9745
603.500	-23.19	-55.532	-78.718	-66.508	-20.9745	-25.9745
603.510	-25.93	-55.507	-81.438	-69.228	-20.9745	-25.9745
603.520	-24.88	-55.49	-80.373	-68.163	-20.9745	-25.9745
603.530	-25.05	-55.469	-80.517	-68.307	-20.9745	-25.9745
603.540	-23.43	-55.48	-78.911	-66.701	-20.9745	-25.9745
603.550	-25.91	-55.339	-81.252	-69.042	-20.9745	-25.9745
603.560	-23.68	-55.395	-79.076	-66.866	-20.9745	-25.9745
603.570	-25.05	-55.389	-80.435	-68.225	-20.9745	-25.9745
603.580	-22.46	-55.336	-77.798	-65.588	-20.9745	-25.9745
603.590	-22.72	-55.277	-77.993	-65.783	-20.9745	-25.9745
603.600	-22.10	-55.213	-77.316	-65.106	-20.9745	-25.9745
603.610	-23.93	-55.158	-79.087	-66.877	-20.9745	-25.9745
603.620	-26.48	-55.15	-81.634	-69.424	-20.9745	-25.9745
603.630	-25.21	-55.227	-80.436	-68.226	-20.9745	-25.9745
603.640	-26.47	-55.178	-81.650	-69.440	-20.9745	-25.9745
603.650	-26.70	-55.224	-81.920	-69.710	-20.9745	-25.9745
603.660	-22.46	-55.149	-77.610	-65.400	-20.9745	-25.9745
603.670	-24.55	-54.984	-79.536	-67.326	-20.9745	-25.9745
603.680	-22.81	-55.181	-77.986	-65.776	-20.9745	-25.9745
603.690	-27.39	-55.022	-82.408	-70.198	-20.9745	-25.9745
603.700	-23.08	-55.056	-78.139	-65.929	-20.9745	-25.9745
603.710	-25.06	-55.022	-80.078	-67.868	-20.9745	-25.9745
603.720	-25.38	-55.009	-80.390	-68.180	-20.9745	-25.9745
603.730	-25.91	-54.999	-80.907	-68.697	-20.9745	-25.9745
603.740	-24.06	-54.865	-78.929	-66.719	-20.9745	-25.9745
603.750	-24.88	-54.911	-79.790	-67.580	-20.9745	-25.9745

603.760	-19.76	-54.826	-74.585	-62.375	-20.9745	-25.9745
603.770	-22.99	-54.948	-77.941	-65.731	-20.9745	-25.9745
603.780	-25.91	-54.685	-80.591	-68.381	-20.9745	-25.9745
603.790	-22.64	-54.755	-77.397	-65.187	-20.9745	-25.9745
603.800	-25.23	-54.767	-80.000	-67.790	-20.9745	-25.9745
603.810	-25.73	-54.683	-80.415	-68.205	-20.9745	-25.9745
603.820	-23.68	-54.765	-78.448	-66.238	-20.9745	-25.9745
603.830	-23.44	-54.68	-78.124	-65.914	-20.9745	-25.9745
603.840	-23.19	-54.522	-77.708	-65.498	-20.9745	-25.9745
603.850	-26.10	-54.719	-80.818	-68.608	-20.9745	-25.9745
603.860	-25.58	-54.664	-80.247	-68.037	-20.9745	-25.9745
603.870	-25.91	-54.605	-80.511	-68.301	-20.9745	-25.9745
603.880	-20.55	-54.574	-75.128	-62.918	-20.9745	-25.9745
603.890	-23.32	-54.492	-77.812	-65.602	-20.9745	-25.9745
603.900	-24.54	-54.423	-78.967	-66.757	-20.9745	-25.9745
603.910	-22.99	-54.483	-77.468	-65.258	-20.9745	-25.9745
603.920	-22.90	-54.441	-77.342	-65.132	-20.9745	-25.9745
603.930	-24.88	-54.466	-79.349	-67.139	-20.9745	-25.9745
603.940	-25.92	-54.464	-80.380	-68.170	-20.9745	-25.9745
603.950	-25.04	-54.288	-79.325	-67.115	-20.9745	-25.9745
603.960	-24.70	-54.301	-78.998	-66.788	-20.9745	-25.9745
603.970	-25.75	-54.32	-80.073	-67.863	-20.9745	-25.9745
603.980	-22.64	-54.209	-76.847	-64.637	-20.9745	-25.9745
603.990	-21.41	-54.27	-75.681	-63.471	-20.9745	-25.9745
604.000	-26.50	-54.218	-80.716	-68.506	-20.9745	-25.9745
604.010	-25.58	-54.21	-79.790	-67.580	-20.9745	-25.9745
604.020	-25.21	-54.257	-79.462	-67.252	-20.9745	-25.9745
604.030	-25.22	-54.246	-79.469	-67.259	-20.9745	-25.9745
604.040	-24.36	-54.179	-78.535	-66.325	-20.9745	-25.9745
604.050	-23.95	-54.249	-78.195	-65.985	-20.9745	-25.9745
604.060	-23.55	-54.134	-77.687	-65.477	-20.9745	-25.9745
604.070	-22.82	-53.948	-76.766	-64.556	-20.9745	-25.9745
604.080	-23.31	-54.065	-77.379	-65.169	-20.9745	-25.9745
604.090	-24.88	-53.989	-78.873	-66.663	-20.9745	-25.9745
604.100	-26.11	-53.978	-80.086	-67.876	-20.9745	-25.9745
604.110	-26.27	-53.888	-80.157	-67.947	-20.9745	-25.9745
604.120	-23.09	-53.855	-76.947	-64.737	-20.9745	-25.9745
604.130	-24.20	-53.916	-78.115	-65.905	-20.9745	-25.9745
604.140	-23.44	-53.833	-77.272	-65.062	-20.9745	-25.9745
604.150	-26.11	-53.85	-79.956	-67.746	-20.9745	-25.9745
604.160	-22.38	-53.798	-76.175	-63.965	-20.9745	-25.9745
604.170	-24.35	-53.832	-78.185	-65.975	-20.9745	-25.9745
604.180	-23.30	-53.793	-77.096	-64.886	-20.9745	-25.9745
604.190	-24.06	-53.876	-77.935	-65.725	-20.9745	-25.9745
604.200	-22.80	-53.788	-76.592	-64.382	-20.9745	-25.9745
604.210	-24.38	-53.612	-77.989	-65.779	-20.9745	-25.9745

604.220	-25.93	-53.609	-79.541	-67.331	-20.9745	-25.9745
604.230	-23.09	-53.706	-76.793	-64.583	-20.9745	-25.9745
604.240	-22.02	-53.68	-75.698	-63.488	-20.9745	-25.9745
604.250	-24.38	-53.614	-77.996	-65.786	-20.9745	-25.9745
604.260	-23.68	-53.417	-77.092	-64.882	-20.9745	-25.9745
604.270	-24.20	-53.478	-77.677	-65.467	-20.9745	-25.9745
604.280	-24.20	-53.593	-77.788	-65.578	-20.9745	-25.9745
604.290	-23.69	-53.5	-77.189	-64.979	-20.9745	-25.9745
604.300	-24.06	-53.652	-77.716	-65.506	-20.9745	-25.9745
604.310	-25.41	-53.436	-78.844	-66.634	-20.9745	-25.9745
604.320	-25.39	-53.451	-78.844	-66.634	-20.9745	-25.9745
604.330	-23.42	-53.272	-76.694	-64.484	-20.9745	-25.9745
604.340	-24.06	-53.419	-77.483	-65.273	-20.9745	-25.9745
604.350	-22.81	-53.273	-76.078	-63.868	-20.9745	-25.9745
604.360	-25.40	-53.19	-78.587	-66.377	-20.9745	-25.9745
604.370	-23.55	-53.267	-76.815	-64.605	-20.9745	-25.9745
604.380	-26.08	-53.379	-79.459	-67.249	-20.9745	-25.9745
604.390	-22.91	-53.193	-76.099	-63.889	-20.9745	-25.9745
604.400	-23.30	-53.228	-76.523	-64.313	-20.9745	-25.9745
604.410	-26.72	-53.124	-79.843	-67.633	-20.9745	-25.9745
604.420	-23.09	-53.121	-76.207	-63.997	-20.9745	-25.9745
604.430	-25.91	-53.033	-78.939	-66.729	-20.9745	-25.9745
604.440	-24.71	-53.089	-77.802	-65.592	-20.9745	-25.9745
604.450	-21.93	-53.046	-74.971	-62.761	-20.9745	-25.9745
604.460	-22.91	-53.026	-75.931	-63.721	-20.9745	-25.9745
604.470	-24.89	-52.948	-77.833	-65.623	-20.9745	-25.9745
604.480	-22.47	-52.918	-75.386	-63.176	-20.9745	-25.9745
604.490	-23.43	-52.936	-76.364	-64.154	-20.9745	-25.9745
604.500	-23.56	-52.85	-76.409	-64.199	-20.9745	-25.9745
604.510	-22.17	-52.858	-75.028	-62.818	-20.9745	-25.9745
604.520	-23.45	-52.932	-76.377	-64.167	-20.9745	-25.9745
604.530	-23.44	-52.86	-76.303	-64.093	-20.9745	-25.9745
604.540	-25.57	-52.91	-78.483	-66.273	-20.9745	-25.9745
604.550	-22.18	-52.849	-75.025	-62.815	-20.9745	-25.9745
604.560	-23.68	-52.747	-76.422	-64.212	-20.9745	-25.9745
604.570	-24.19	-52.782	-76.967	-64.757	-20.9745	-25.9745
604.580	-25.92	-52.657	-78.578	-66.368	-20.9745	-25.9745
604.590	-23.31	-52.598	-75.903	-63.693	-20.9745	-25.9745
604.600	-25.06	-52.722	-77.779	-65.569	-20.9745	-25.9745
604.610	-23.96	-52.712	-76.669	-64.459	-20.9745	-25.9745
604.620	-22.29	-52.576	-74.863	-62.653	-20.9745	-25.9745
604.630	-23.17	-52.597	-75.771	-63.561	-20.9745	-25.9745
604.640	-24.19	-52.531	-76.725	-64.515	-20.9745	-25.9745
604.650	-22.08	-52.461	-74.545	-62.335	-20.9745	-25.9745
604.660	-24.36	-52.445	-76.800	-64.590	-20.9745	-25.9745
604.670	-24.08	-52.366	-76.449	-64.239	-20.9745	-25.9745

604.680	-22.64	-52.473	-75.117	-62.907	-20.9745	-25.9745
604.690	-22.82	-52.479	-75.297	-63.087	-20.9745	-25.9745
604.700	-23.10	-52.382	-75.478	-63.268	-20.9745	-25.9745
604.710	-23.44	-52.272	-75.712	-63.502	-20.9745	-25.9745
604.720	-22.56	-52.384	-74.946	-62.736	-20.9745	-25.9745
604.730	-25.21	-52.227	-77.437	-65.227	-20.9745	-25.9745
604.740	-22.10	-52.265	-74.362	-62.152	-20.9745	-25.9745
604.750	-23.58	-52.247	-75.823	-63.613	-20.9745	-25.9745
604.760	-24.73	-52.217	-76.942	-64.732	-20.9745	-25.9745
604.770	-21.40	-52.238	-73.640	-61.430	-20.9745	-25.9745
604.780	-25.74	-52.163	-77.900	-65.690	-20.9745	-25.9745
604.790	-22.26	-52.173	-74.434	-62.224	-20.9745	-25.9745
604.800	-23.94	-52.041	-75.984	-63.774	-20.9745	-25.9745
604.810	-23.68	-52.042	-75.720	-63.510	-20.9745	-25.9745
604.820	-22.91	-52.024	-74.936	-62.726	-20.9745	-25.9745
604.830	-25.05	-52.079	-77.126	-64.916	-20.9745	-25.9745
604.840	-25.74	-52.066	-77.809	-65.599	-20.9745	-25.9745
604.850	-25.58	-51.943	-77.521	-65.311	-20.9745	-25.9745
604.860	-24.87	-51.901	-76.770	-64.560	-20.9745	-25.9745
604.870	-25.07	-51.952	-77.019	-64.809	-20.9745	-25.9745
604.880	-24.54	-51.956	-76.495	-64.285	-20.9745	-25.9745
604.890	-23.81	-51.87	-75.678	-63.468	-20.9745	-25.9745
604.900	-27.86	-51.79	-79.654	-67.444	-20.9745	-25.9745
604.910	-25.05	-51.787	-76.832	-64.622	-20.9745	-25.9745
604.920	-24.20	-51.768	-75.970	-63.760	-20.9745	-25.9745
604.930	-24.38	-51.74	-76.118	-63.908	-20.9745	-25.9745
604.940	-21.59	-51.707	-73.293	-61.083	-20.9745	-25.9745
604.950	-22.09	-51.665	-73.755	-61.545	-20.9745	-25.9745
604.960	-25.21	-51.665	-76.873	-64.663	-20.9745	-25.9745
604.970	-24.08	-51.613	-75.696	-63.486	-20.9745	-25.9745
604.980	-23.58	-51.652	-75.227	-63.017	-20.9745	-25.9745
604.990	-24.53	-51.619	-76.152	-63.942	-20.9745	-25.9745
605.000	-17.56	-51.585	-69.140	-56.930	-20.9745	-25.9745
605.010	-23.10	-51.479	-74.581	-62.371	-20.9745	-25.9745
605.020	-22.75	-51.444	-74.189	-61.979	-20.9745	-25.9745
605.030	-23.81	-51.457	-75.266	-63.056	-20.9745	-25.9745
605.040	-22.72	-51.327	-74.050	-61.840	-20.9745	-25.9745
605.050	-23.95	-51.404	-75.350	-63.140	-20.9745	-25.9745
605.060	-23.11	-51.395	-74.504	-62.294	-20.9745	-25.9745
605.070	-24.38	-51.377	-75.759	-63.549	-20.9745	-25.9745
605.080	-23.56	-51.286	-74.848	-62.638	-20.9745	-25.9745
605.090	-23.31	-51.343	-74.648	-62.438	-20.9745	-25.9745
605.100	-23.83	-51.263	-75.089	-62.879	-20.9745	-25.9745
605.110	-21.07	-51.226	-72.292	-60.082	-20.9745	-25.9745
605.120	-24.06	-51.233	-75.296	-63.086	-20.9745	-25.9745
605.130	-23.56	-51.133	-74.693	-62.483	-20.9745	-25.9745

605.140	-23.31	-51.168	-74.478	-62.268	-20.9745	-25.9745
605.150	-24.08	-51.185	-75.262	-63.052	-20.9745	-25.9745
605.160	-27.13	-51.12	-78.252	-66.042	-20.9745	-25.9745
605.170	-22.28	-51.01	-73.285	-61.075	-20.9745	-25.9745
605.180	-21.49	-51.043	-72.530	-60.320	-20.9745	-25.9745
605.190	-23.18	-51.013	-74.188	-61.978	-20.9745	-25.9745
605.200	-23.43	-51.026	-74.458	-62.248	-20.9745	-25.9745
605.210	-24.08	-50.89	-74.972	-62.762	-20.9745	-25.9745
605.220	-23.33	-50.885	-74.213	-62.003	-20.9745	-25.9745
605.230	-22.11	-50.821	-72.929	-60.719	-20.9745	-25.9745
605.240	-24.09	-50.79	-74.878	-62.668	-20.9745	-25.9745
605.250	-22.19	-50.843	-73.033	-60.823	-20.9745	-25.9745
605.260	-24.70	-50.87	-75.573	-63.363	-20.9745	-25.9745
605.270	-22.47	-50.745	-73.210	-61.000	-20.9745	-25.9745
605.280	-20.49	-50.666	-71.151	-58.941	-20.9745	-25.9745
605.290	-22.75	-50.762	-73.508	-61.298	-20.9745	-25.9745
605.300	-24.21	-50.626	-74.834	-62.624	-20.9745	-25.9745
605.310	-24.53	-50.677	-75.209	-62.999	-20.9745	-25.9745
605.320	-21.74	-50.644	-72.385	-60.175	-20.9745	-25.9745
605.330	-22.74	-50.57	-73.312	-61.102	-20.9745	-25.9745
605.340	-25.39	-50.521	-75.915	-63.705	-20.9745	-25.9745
605.350	-24.89	-50.499	-75.388	-63.178	-20.9745	-25.9745
605.360	-22.90	-50.539	-73.437	-61.227	-20.9745	-25.9745
605.370	-24.55	-50.413	-74.965	-62.755	-20.9745	-25.9745
605.380	-25.93	-50.417	-76.345	-64.135	-20.9745	-25.9745
605.390	-22.92	-50.53	-73.448	-61.238	-20.9745	-25.9745
605.400	-24.38	-50.367	-74.750	-62.540	-20.9745	-25.9745
605.410	-22.11	-50.401	-72.509	-60.299	-20.9745	-25.9745
605.420	-23.43	-50.302	-73.727	-61.517	-20.9745	-25.9745
605.430	-24.38	-50.267	-74.648	-62.438	-20.9745	-25.9745
605.440	-23.55	-50.27	-73.823	-61.613	-20.9745	-25.9745
605.450	-24.89	-50.279	-75.167	-62.957	-20.9745	-25.9745
605.460	-23.96	-50.176	-74.139	-61.929	-20.9745	-25.9745
605.470	-23.55	-50.202	-73.755	-61.545	-20.9745	-25.9745
605.480	-23.81	-50.195	-74.005	-61.795	-20.9745	-25.9745
605.490	-21.85	-50.169	-72.022	-59.812	-20.9745	-25.9745
605.500	-22.73	-50.027	-72.761	-60.551	-20.9745	-25.9745
605.510	-23.82	-50.138	-73.957	-61.747	-20.9745	-25.9745
605.520	-22.82	-49.997	-72.816	-60.606	-20.9745	-25.9745
605.530	-23.96	-50	-73.964	-61.754	-20.9745	-25.9745
605.540	-23.31	-49.989	-73.301	-61.091	-20.9745	-25.9745
605.550	-22.38	-49.974	-72.350	-60.140	-20.9745	-25.9745
605.560	-23.33	-49.877	-73.202	-60.992	-20.9745	-25.9745
605.570	-21.41	-49.863	-71.268	-59.058	-20.9745	-25.9745
605.580	-21.48	-49.891	-71.373	-59.163	-20.9745	-25.9745
605.590	-22.56	-49.786	-72.344	-60.134	-20.9745	-25.9745

605.600	-22.99	-49.81	-72.804	-60.594	-20.9745	-25.9745
605.610	-23.56	-49.791	-73.355	-61.145	-20.9745	-25.9745
605.620	-21.85	-49.772	-71.621	-59.411	-20.9745	-25.9745
605.630	-23.68	-49.692	-73.376	-61.166	-20.9745	-25.9745
605.640	-23.58	-49.67	-73.250	-61.040	-20.9745	-25.9745
605.650	-23.11	-49.641	-72.748	-60.538	-20.9745	-25.9745
605.660	-24.36	-49.64	-74.004	-61.794	-20.9745	-25.9745
605.670	-21.75	-49.544	-71.293	-59.083	-20.9745	-25.9745
605.680	-22.91	-49.53	-72.442	-60.232	-20.9745	-25.9745
605.690	-23.09	-49.556	-72.650	-60.440	-20.9745	-25.9745
605.700	-24.20	-49.549	-73.750	-61.540	-20.9745	-25.9745
605.710	-21.15	-49.498	-70.648	-58.438	-20.9745	-25.9745
605.720	-23.82	-49.447	-73.270	-61.060	-20.9745	-25.9745
605.730	-21.51	-49.424	-70.931	-58.721	-20.9745	-25.9745
605.740	-23.19	-49.409	-72.603	-60.393	-20.9745	-25.9745
605.750	-23.82	-49.332	-73.155	-60.945	-20.9745	-25.9745
605.760	-21.33	-49.375	-70.709	-58.499	-20.9745	-25.9745
605.770	-22.19	-49.317	-71.509	-59.299	-20.9745	-25.9745
605.780	-19.83	-49.224	-69.058	-56.848	-20.9745	-25.9745
605.790	-22.93	-49.264	-72.193	-59.983	-20.9745	-25.9745
605.800	-19.62	-49.177	-68.794	-56.584	-20.9745	-25.9745
605.810	-21.93	-49.167	-71.092	-58.882	-20.9745	-25.9745
605.820	-22.38	-49.076	-71.453	-59.243	-20.9745	-25.9745
605.830	-23.82	-49.104	-72.925	-60.715	-20.9745	-25.9745
605.840	-24.55	-49.087	-73.636	-61.426	-20.9745	-25.9745
605.850	-19.49	-49.063	-68.555	-56.345	-20.9745	-25.9745
605.860	-22.27	-49.008	-71.279	-59.069	-20.9745	-25.9745
605.870	-26.51	-48.97	-75.478	-63.268	-20.9745	-25.9745
605.880	-20.40	-48.994	-69.391	-57.181	-20.9745	-25.9745
605.890	-22.18	-48.906	-71.088	-58.878	-20.9745	-25.9745
605.900	-23.82	-48.936	-72.758	-60.548	-20.9745	-25.9745
605.910	-22.64	-48.852	-71.495	-59.285	-20.9745	-25.9745
605.920	-23.56	-48.816	-72.378	-60.168	-20.9745	-25.9745
605.930	-23.82	-48.884	-72.705	-60.495	-20.9745	-25.9745
605.940	-20.40	-48.714	-69.111	-56.901	-20.9745	-25.9745
605.950	-22.72	-48.766	-71.486	-59.276	-20.9745	-25.9745
605.960	-20.30	-48.65	-68.952	-56.742	-20.9745	-25.9745
605.970	-21.59	-48.643	-70.232	-58.022	-20.9745	-25.9745
605.980	-25.57	-48.603	-74.173	-61.963	-20.9745	-25.9745
605.990	-22.01	-48.664	-70.670	-58.460	-20.9745	-25.9745
606.000	-22.19	-48.599	-70.790	-58.580	-20.9745	-25.9745
606.010	-22.12	-48.538	-70.653	-58.443	-20.9745	-25.9745
606.020	-23.09	-48.537	-71.628	-59.418	-20.9745	-25.9745
606.030	-24.89	-48.488	-73.382	-61.172	-20.9745	-25.9745
606.040	-23.57	-48.456	-72.026	-59.816	-20.9745	-25.9745
606.050	-20.47	-48.417	-68.889	-56.679	-20.9745	-25.9745

606.060	-21.16	-48.376	-69.536	-57.326	-20.9745	-25.9745
606.070	-23.30	-48.378	-71.680	-59.470	-20.9745	-25.9745
606.080	-21.67	-48.344	-70.015	-57.805	-20.9745	-25.9745
606.090	-18.62	-48.238	-66.856	-54.646	-20.9745	-25.9745
606.100	-24.20	-48.248	-72.446	-60.236	-20.9745	-25.9745
606.110	-24.08	-48.207	-72.284	-60.074	-20.9745	-25.9745
606.120	-22.90	-48.22	-71.123	-58.913	-20.9745	-25.9745
606.130	-24.09	-48.229	-72.319	-60.109	-20.9745	-25.9745
606.140	-19.09	-48.176	-67.264	-55.054	-20.9745	-25.9745
606.150	-23.57	-48.146	-71.717	-59.507	-20.9745	-25.9745
606.160	-20.78	-48.104	-68.882	-56.672	-20.9745	-25.9745
606.170	-21.66	-48.057	-69.717	-57.507	-20.9745	-25.9745
606.180	-23.10	-48.041	-71.144	-58.934	-20.9745	-25.9745
606.190	-22.84	-47.957	-70.793	-58.583	-20.9745	-25.9745
606.200	-22.11	-47.924	-70.038	-57.828	-20.9745	-25.9745
606.210	-23.46	-47.912	-71.371	-59.161	-20.9745	-25.9745
606.220	-23.57	-47.952	-71.519	-59.309	-20.9745	-25.9745
606.230	-24.38	-47.858	-72.242	-60.032	-20.9745	-25.9745
606.240	-24.56	-47.801	-72.363	-60.153	-20.9745	-25.9745
606.250	-25.75	-47.839	-73.588	-61.378	-20.9745	-25.9745
606.260	-22.45	-47.762	-70.213	-58.003	-20.9745	-25.9745
606.270	-21.94	-47.652	-69.594	-57.384	-20.9745	-25.9745
606.280	-19.13	-47.696	-66.821	-54.611	-20.9745	-25.9745
606.290	-22.81	-47.679	-70.492	-58.282	-20.9745	-25.9745
606.300	-23.83	-47.634	-71.461	-59.251	-20.9745	-25.9745
606.310	-22.19	-47.622	-69.807	-57.597	-20.9745	-25.9745
606.320	-21.16	-47.594	-68.755	-56.545	-20.9745	-25.9745
606.330	-21.95	-47.564	-69.510	-57.300	-20.9745	-25.9745
606.340	-20.39	-47.434	-67.824	-55.614	-20.9745	-25.9745
606.350	-19.69	-47.517	-67.211	-55.001	-20.9745	-25.9745
606.360	-21.51	-47.448	-68.954	-56.744	-20.9745	-25.9745
606.370	-21.68	-47.431	-69.110	-56.900	-20.9745	-25.9745
606.380	-22.38	-47.424	-69.804	-57.594	-20.9745	-25.9745
606.390	-23.32	-47.329	-70.647	-58.437	-20.9745	-25.9745
606.400	-22.19	-47.295	-69.484	-57.274	-20.9745	-25.9745
606.410	-23.18	-47.271	-70.446	-58.236	-20.9745	-25.9745
606.420	-23.08	-47.218	-70.302	-58.092	-20.9745	-25.9745
606.430	-22.19	-47.287	-69.480	-57.270	-20.9745	-25.9745
606.440	-20.39	-47.222	-67.612	-55.402	-20.9745	-25.9745
606.450	-23.44	-47.134	-70.569	-58.359	-20.9745	-25.9745
606.460	-19.98	-47.12	-67.097	-54.887	-20.9745	-25.9745
606.470	-19.34	-47.174	-66.513	-54.303	-20.9745	-25.9745
606.480	-23.83	-47.072	-70.900	-58.690	-20.9745	-25.9745
606.490	-24.73	-47.041	-71.771	-59.561	-20.9745	-25.9745
606.500	-20.48	-47	-67.480	-55.270	-20.9745	-25.9745
606.510	-22.37	-46.977	-69.350	-57.140	-20.9745	-25.9745

606.520	-22.83	-46.925	-69.750	-57.540	-20.9745	-25.9745
606.530	-22.38	-46.908	-69.292	-57.082	-20.9745	-25.9745
606.540	-24.71	-46.888	-71.594	-59.384	-20.9745	-25.9745
606.550	-22.00	-46.866	-68.870	-56.660	-20.9745	-25.9745
606.560	-21.26	-46.756	-68.012	-55.802	-20.9745	-25.9745
606.570	-22.18	-46.714	-68.892	-56.682	-20.9745	-25.9745
606.580	-21.84	-46.674	-68.512	-56.302	-20.9745	-25.9745
606.590	-22.02	-46.692	-68.708	-56.498	-20.9745	-25.9745
606.600	-21.16	-46.65	-67.811	-55.601	-20.9745	-25.9745
606.610	-20.18	-46.676	-66.853	-54.643	-20.9745	-25.9745
606.620	-18.10	-46.626	-64.725	-52.515	-20.9745	-25.9745
606.630	-21.84	-46.547	-68.385	-56.175	-20.9745	-25.9745
606.640	-22.64	-46.575	-69.210	-57.000	-20.9745	-25.9745
606.650	-21.94	-46.496	-68.436	-56.226	-20.9745	-25.9745
606.660	-21.67	-46.485	-68.159	-55.949	-20.9745	-25.9745
606.670	-21.51	-46.417	-67.926	-55.716	-20.9745	-25.9745
606.680	-18.36	-46.404	-64.764	-52.554	-20.9745	-25.9745
606.690	-19.55	-46.394	-65.944	-53.734	-20.9745	-25.9745
606.700	-20.37	-46.37	-66.743	-54.533	-20.9745	-25.9745
606.710	-23.43	-46.273	-69.707	-57.497	-20.9745	-25.9745
606.720	-19.56	-46.31	-65.865	-53.655	-20.9745	-25.9745
606.730	-21.25	-46.252	-67.504	-55.294	-20.9745	-25.9745
606.740	-20.47	-46.234	-66.707	-54.497	-20.9745	-25.9745
606.750	-23.70	-46.191	-69.888	-57.678	-20.9745	-25.9745
606.760	-18.89	-46.146	-65.037	-52.827	-20.9745	-25.9745
606.770	-21.51	-46.07	-67.579	-55.369	-20.9745	-25.9745
606.780	-22.11	-46.028	-68.133	-55.923	-20.9745	-25.9745
606.790	-22.46	-46.026	-68.481	-56.271	-20.9745	-25.9745
606.800	-17.40	-46.002	-63.398	-51.188	-20.9745	-25.9745
606.810	-18.50	-46.003	-64.507	-52.297	-20.9745	-25.9745
606.820	-22.91	-45.887	-68.801	-56.591	-20.9745	-25.9745
606.830	-19.85	-45.879	-65.733	-53.523	-20.9745	-25.9745
606.840	-20.88	-45.862	-66.738	-54.528	-20.9745	-25.9745
606.850	-22.04	-45.871	-67.906	-55.696	-20.9745	-25.9745
606.860	-22.28	-45.783	-68.060	-55.850	-20.9745	-25.9745
606.870	-21.66	-45.766	-67.429	-55.219	-20.9745	-25.9745
606.880	-18.95	-45.735	-64.683	-52.473	-20.9745	-25.9745
606.890	-18.79	-45.646	-64.435	-52.225	-20.9745	-25.9745
606.900	-22.36	-45.601	-67.963	-55.753	-20.9745	-25.9745
606.910	-22.84	-45.588	-68.426	-56.216	-20.9745	-25.9745
606.920	-19.76	-45.562	-65.326	-53.116	-20.9745	-25.9745
606.930	-21.77	-45.578	-67.348	-55.138	-20.9745	-25.9745
606.940	-21.15	-45.496	-66.645	-54.435	-20.9745	-25.9745
606.950	-24.54	-45.506	-70.049	-57.839	-20.9745	-25.9745
606.960	-20.76	-45.459	-66.216	-54.006	-20.9745	-25.9745
606.970	-22.18	-45.49	-67.674	-55.464	-20.9745	-25.9745

606.980	-20.67	-45.357	-66.023	-53.813	-20.9745	-25.9745
606.990	-22.29	-45.349	-67.639	-55.429	-20.9745	-25.9745
607.000	-18.78	-45.344	-64.126	-51.916	-20.9745	-25.9745
607.010	-19.14	-45.225	-64.369	-52.159	-20.9745	-25.9745
607.020	-20.30	-45.236	-65.538	-53.328	-20.9745	-25.9745
607.030	-25.94	-45.245	-71.186	-58.976	-20.9745	-25.9745
607.040	-18.85	-45.186	-64.032	-51.822	-20.9745	-25.9745
607.050	-21.32	-45.139	-66.461	-54.251	-20.9745	-25.9745
607.060	-18.66	-45.11	-63.770	-51.560	-20.9745	-25.9745
607.070	-23.11	-45.084	-68.195	-55.985	-20.9745	-25.9745
607.080	-21.51	-45.042	-66.549	-54.339	-20.9745	-25.9745
607.090	-18.85	-45.027	-63.878	-51.668	-20.9745	-25.9745
607.100	-24.20	-44.947	-69.148	-56.938	-20.9745	-25.9745
607.110	-20.30	-44.932	-65.227	-53.017	-20.9745	-25.9745
607.120	-21.67	-44.887	-66.560	-54.350	-20.9745	-25.9745
607.130	-21.69	-44.859	-66.550	-54.340	-20.9745	-25.9745
607.140	-21.50	-44.834	-66.332	-54.122	-20.9745	-25.9745
607.150	-19.90	-44.769	-64.668	-52.458	-20.9745	-25.9745
607.160	-19.86	-44.76	-64.615	-52.405	-20.9745	-25.9745
607.170	-21.60	-44.692	-66.293	-54.083	-20.9745	-25.9745
607.180	-20.19	-44.697	-64.888	-52.678	-20.9745	-25.9745
607.190	-18.92	-44.681	-63.597	-51.387	-20.9745	-25.9745
607.200	-20.06	-44.617	-64.680	-52.470	-20.9745	-25.9745
607.210	-23.31	-44.595	-67.902	-55.692	-20.9745	-25.9745
607.220	-20.39	-44.523	-64.909	-52.699	-20.9745	-25.9745
607.230	-21.43	-44.511	-65.942	-53.732	-20.9745	-25.9745
607.240	-21.52	-44.492	-66.010	-53.800	-20.9745	-25.9745
607.250	-20.66	-44.447	-65.108	-52.898	-20.9745	-25.9745
607.260	-22.82	-44.381	-67.199	-54.989	-20.9745	-25.9745
607.270	-19.47	-44.392	-63.864	-51.654	-20.9745	-25.9745
607.280	-23.11	-44.291	-67.401	-55.191	-20.9745	-25.9745
607.290	-18.56	-44.3	-62.862	-50.652	-20.9745	-25.9745
607.300	-20.88	-44.289	-65.167	-52.957	-20.9745	-25.9745
607.310	-21.07	-44.238	-65.304	-53.094	-20.9745	-25.9745
607.320	-20.96	-44.225	-65.181	-52.971	-20.9745	-25.9745
607.330	-22.39	-44.154	-66.547	-54.337	-20.9745	-25.9745
607.340	-20.67	-44.133	-64.804	-52.594	-20.9745	-25.9745
607.350	-20.19	-44.12	-64.309	-52.099	-20.9745	-25.9745
607.360	-18.08	-44.068	-62.150	-49.940	-20.9745	-25.9745
607.370	-15.62	-44.001	-59.621	-47.411	-20.9745	-25.9745
607.380	-23.46	-43.965	-67.420	-55.210	-20.9745	-25.9745
607.390	-20.00	-44.003	-63.999	-51.789	-20.9745	-25.9745
607.400	-18.38	-43.919	-62.297	-50.087	-20.9745	-25.9745
607.410	-19.83	-43.862	-63.696	-51.486	-20.9745	-25.9745
607.420	-20.19	-43.796	-63.985	-51.775	-20.9745	-25.9745
607.430	-17.77	-43.761	-61.530	-49.320	-20.9745	-25.9745

607.440	-22.29	-43.789	-66.081	-53.871	-20.9745	-25.9745
607.450	-21.77	-43.756	-65.530	-53.320	-20.9745	-25.9745
607.460	-22.55	-43.717	-66.265	-54.055	-20.9745	-25.9745
607.470	-20.40	-43.636	-64.036	-51.826	-20.9745	-25.9745
607.480	-19.92	-43.616	-63.539	-51.329	-20.9745	-25.9745
607.490	-21.75	-43.575	-65.328	-53.118	-20.9745	-25.9745
607.500	-21.41	-43.532	-64.943	-52.733	-20.9745	-25.9745
607.510	-22.28	-43.512	-65.789	-53.579	-20.9745	-25.9745
607.520	-22.01	-43.457	-65.468	-53.258	-20.9745	-25.9745
607.530	-19.57	-43.422	-62.987	-50.777	-20.9745	-25.9745
607.540	-22.64	-43.383	-66.020	-53.810	-20.9745	-25.9745
607.550	-18.96	-43.371	-62.329	-50.119	-20.9745	-25.9745
607.560	-23.70	-43.354	-67.051	-54.841	-20.9745	-25.9745
607.570	-19.04	-43.27	-62.306	-50.096	-20.9745	-25.9745
607.580	-19.34	-43.245	-62.584	-50.374	-20.9745	-25.9745
607.590	-21.52	-43.228	-64.745	-52.535	-20.9745	-25.9745
607.600	-22.92	-43.152	-66.076	-53.866	-20.9745	-25.9745
607.610	-19.99	-43.112	-63.098	-50.888	-20.9745	-25.9745
607.620	-19.21	-43.111	-62.316	-50.106	-20.9745	-25.9745
607.630	-20.57	-43.119	-63.691	-51.481	-20.9745	-25.9745
607.640	-20.57	-43.011	-63.583	-51.373	-20.9745	-25.9745
607.650	-22.66	-42.974	-65.638	-53.428	-20.9745	-25.9745
607.660	-19.26	-42.981	-62.242	-50.032	-20.9745	-25.9745
607.670	-21.60	-42.885	-64.485	-52.275	-20.9745	-25.9745
607.680	-19.02	-42.879	-61.902	-49.692	-20.9745	-25.9745
607.690	-18.67	-42.851	-61.522	-49.312	-20.9745	-25.9745
607.700	-19.02	-42.788	-61.804	-49.594	-20.9745	-25.9745
607.710	-17.28	-42.748	-60.028	-47.818	-20.9745	-25.9745
607.720	-22.46	-42.726	-65.185	-52.975	-20.9745	-25.9745
607.730	-19.50	-42.689	-62.190	-49.980	-20.9745	-25.9745
607.740	-21.50	-42.693	-64.191	-51.981	-20.9745	-25.9745
607.750	-20.39	-42.64	-63.029	-50.819	-20.9745	-25.9745
607.760	-21.60	-42.565	-64.169	-51.959	-20.9745	-25.9745
607.770	-21.49	-42.528	-64.020	-51.810	-20.9745	-25.9745
607.780	-20.69	-42.483	-63.173	-50.963	-20.9745	-25.9745
607.790	-18.98	-42.497	-61.480	-49.270	-20.9745	-25.9745
607.800	-18.51	-42.401	-60.909	-48.699	-20.9745	-25.9745
607.810	-16.81	-42.409	-59.216	-47.006	-20.9745	-25.9745
607.820	-18.19	-42.356	-60.546	-48.336	-20.9745	-25.9745
607.830	-20.06	-42.323	-62.380	-50.170	-20.9745	-25.9745
607.840	-18.95	-42.311	-61.263	-49.053	-20.9745	-25.9745
607.850	-19.09	-42.259	-61.352	-49.142	-20.9745	-25.9745
607.860	-19.07	-42.207	-61.280	-49.070	-20.9745	-25.9745
607.870	-18.86	-42.163	-61.025	-48.815	-20.9745	-25.9745
607.880	-18.67	-42.144	-60.812	-48.602	-20.9745	-25.9745
607.890	-18.54	-42.097	-60.638	-48.428	-20.9745	-25.9745

607.900	-19.76	-42.045	-61.807	-49.597	-20.9745	-25.9745
607.910	-22.83	-42.013	-64.845	-52.635	-20.9745	-25.9745
607.920	-23.10	-41.997	-65.094	-52.884	-20.9745	-25.9745
607.930	-21.34	-41.937	-63.272	-51.062	-20.9745	-25.9745
607.940	-22.29	-41.929	-64.219	-52.009	-20.9745	-25.9745
607.950	-20.57	-41.867	-62.438	-50.228	-20.9745	-25.9745
607.960	-20.40	-41.811	-62.206	-49.996	-20.9745	-25.9745
607.970	-18.04	-41.782	-59.825	-47.615	-20.9745	-25.9745
607.980	-17.07	-41.748	-58.815	-46.605	-20.9745	-25.9745
607.990	-20.39	-41.676	-62.069	-49.859	-20.9745	-25.9745
608.000	-18.09	-41.657	-59.744	-47.534	-20.9745	-25.9745
608.010	-22.39	-41.65	-64.042	-51.832	-20.8912	-25.9745
608.020	-21.49	-41.59	-63.081	-50.871	-20.8081	-25.9745
608.030	-20.67	-41.543	-62.208	-49.998	-20.7251	-25.9745
608.040	-17.45	-41.53	-58.978	-46.768	-20.6423	-25.9745
608.050	-19.10	-41.46	-60.561	-48.351	-20.5596	-25.9745
608.060	-21.17	-41.443	-62.617	-50.407	-20.477	-25.9745
608.070	-20.98	-41.382	-62.361	-50.151	-20.3946	-25.9745
608.080	-18.19	-41.396	-59.588	-47.378	-20.3123	-25.9745
608.090	-18.62	-41.325	-59.943	-47.733	-20.2301	-25.9745
608.100	-16.93	-41.28	-58.208	-45.998	-20.1481	-25.9745
608.110	-19.28	-41.232	-60.514	-48.304	-20.0662	-25.9745
608.120	-22.56	-41.171	-63.733	-51.523	-19.9845	-25.9745
608.130	-18.16	-41.151	-59.311	-47.101	-19.9029	-25.9745
608.140	-18.79	-41.143	-59.937	-47.727	-19.8214	-25.9745
608.150	-21.84	-41.108	-62.948	-50.738	-19.7401	-25.9745
608.160	-19.03	-41.07	-60.098	-47.888	-19.6589	-25.9745
608.170	-18.14	-41.043	-59.187	-46.977	-19.5779	-25.9745
608.180	-21.17	-40.959	-62.131	-49.921	-19.497	-25.9745
608.190	-21.58	-40.936	-62.517	-50.307	-19.4162	-25.9745
608.200	-22.47	-40.883	-63.353	-51.143	-19.3356	-25.9745
608.210	-18.97	-40.86	-59.834	-47.624	-19.2551	-25.9745
608.220	-20.05	-40.832	-60.878	-48.668	-19.1748	-25.9745
608.230	-20.13	-40.754	-60.882	-48.672	-19.0946	-25.9745
608.240	-18.38	-40.702	-59.080	-46.870	-19.0145	-25.9745
608.250	-23.01	-40.681	-63.692	-51.482	-18.9346	-25.9745
608.260	-19.43	-40.66	-60.093	-47.883	-18.8548	-25.9745
608.270	-17.88	-40.603	-58.479	-46.269	-18.7751	-25.9745
608.280	-18.25	-40.57	-58.818	-46.608	-18.6956	-25.9745
608.290	-17.65	-40.538	-58.185	-45.975	-18.6162	-25.9745
608.300	-17.43	-40.502	-57.933	-45.723	-18.537	-25.9745
608.310	-19.04	-40.446	-59.483	-47.273	-18.4579	-25.9745
608.320	-18.90	-40.419	-59.322	-47.112	-18.3789	-25.9745
608.330	-19.08	-40.373	-59.454	-47.244	-18.3001	-25.9745
608.340	-18.15	-40.32	-58.470	-46.260	-18.2214	-25.9745
608.350	-23.33	-40.3	-63.628	-51.418	-18.1429	-25.9745

608.360	-22.73	-40.249	-62.981	-50.771	-18.0645	-25.9745
608.370	-17.83	-40.184	-58.010	-45.800	-17.9862	-25.9745
608.380	-15.91	-40.176	-56.090	-43.880	-17.9081	-25.9745
608.390	-17.66	-40.115	-57.774	-45.564	-17.8301	-25.9745
608.400	-17.72	-40.072	-57.795	-45.585	-17.7523	-25.9745
608.410	-17.79	-40.038	-57.823	-45.613	-17.6746	-25.9745
608.420	-17.95	-39.985	-57.930	-45.720	-17.597	-25.9745
608.430	-17.67	-39.968	-57.640	-45.430	-17.5196	-25.9745
608.440	-19.36	-39.945	-59.300	-47.090	-17.4423	-25.9745
608.450	-20.57	-39.898	-60.472	-48.262	-17.3651	-25.9745
608.460	-18.69	-39.85	-58.539	-46.329	-17.2881	-25.9745
608.470	-23.31	-39.793	-63.104	-50.894	-17.2112	-25.9745
608.480	-22.55	-39.758	-62.307	-50.097	-17.1345	-25.9745
608.490	-20.40	-39.731	-60.128	-47.918	-17.0579	-25.9745
608.500	-19.63	-39.684	-59.313	-47.103	-16.9814	-25.9745
608.510	-21.24	-39.604	-60.839	-48.629	-16.9051	-25.9745
608.520	-20.87	-39.598	-60.468	-48.258	-16.8289	-25.9745
608.530	-19.57	-39.561	-59.126	-46.916	-16.7529	-25.9745
608.540	-21.69	-39.518	-61.208	-48.998	-16.677	-25.9745
608.550	-18.45	-39.497	-57.943	-45.733	-16.6012	-25.9745
608.560	-19.71	-39.427	-59.141	-46.931	-16.5256	-25.9745
608.570	-15.56	-39.39	-54.947	-42.737	-16.4501	-25.9745
608.580	-18.25	-39.364	-57.613	-45.403	-16.3748	-25.9745
608.590	-16.03	-39.322	-55.349	-43.139	-16.2996	-25.9745
608.600	-22.11	-39.287	-61.400	-49.190	-16.2245	-25.9745
608.610	-19.27	-39.235	-58.508	-46.298	-16.1496	-25.9745
608.620	-17.99	-39.213	-57.206	-44.996	-16.0748	-25.9745
608.630	-18.72	-39.16	-57.884	-45.674	-16.0001	-25.9745
608.640	-18.22	-39.093	-57.308	-45.098	-15.9256	-25.9745
608.650	-19.16	-39.067	-58.226	-46.016	-15.8512	-25.9745
608.660	-19.03	-39.037	-58.065	-45.855	-15.777	-25.9745
608.670	-18.80	-38.975	-57.772	-45.562	-15.7029	-25.9745
608.680	-19.63	-38.938	-58.565	-46.355	-15.6289	-25.9745
608.690	-17.03	-38.908	-55.938	-43.728	-15.5551	-25.9745
608.700	-18.67	-38.866	-57.536	-45.326	-15.4814	-25.9745
608.710	-21.51	-38.804	-60.311	-48.101	-15.4079	-25.9745
608.720	-18.08	-38.773	-56.857	-44.647	-15.3345	-25.9745
608.730	-16.14	-38.759	-54.898	-42.688	-15.2612	-25.9745
608.740	-15.01	-38.696	-53.703	-41.493	-15.1881	-25.9745
608.750	-21.43	-38.635	-60.069	-47.859	-15.1151	-25.9745
608.760	-18.97	-38.597	-57.569	-45.359	-15.0423	-25.9745
608.770	-19.10	-38.561	-57.656	-45.446	-14.9696	-25.9745
608.780	-19.72	-38.501	-58.218	-46.008	-14.897	-25.9745
608.790	-19.03	-38.466	-57.500	-45.290	-14.8246	-25.9745
608.800	-18.03	-38.433	-56.461	-44.251	-14.7523	-25.9745
608.810	-20.58	-38.404	-58.981	-46.771	-14.6801	-25.9745

608.820	-20.59	-38.32	-58.912	-46.702	-14.6081	-25.9745
608.830	-20.30	-38.305	-58.603	-46.393	-14.5362	-25.9745
608.840	-18.10	-38.253	-56.354	-44.144	-14.4645	-25.9745
608.850	-17.08	-38.226	-55.309	-43.099	-14.3929	-25.9745
608.860	-17.41	-38.179	-55.584	-43.374	-14.3214	-25.9745
608.870	-17.56	-38.141	-55.696	-43.486	-14.2501	-25.9745
608.880	-20.76	-38.122	-58.886	-46.676	-14.1789	-25.9745
608.890	-20.77	-38.078	-58.850	-46.640	-14.1079	-25.9745
608.900	-18.19	-38.007	-56.200	-43.990	-14.037	-25.9745
608.910	-23.22	-37.99	-61.205	-48.995	-13.9662	-25.9745
608.920	-22.40	-37.911	-60.307	-48.097	-13.8956	-25.9745
608.930	-21.17	-37.895	-59.066	-46.856	-13.8251	-25.9745
608.940	-19.49	-37.825	-57.317	-45.107	-13.7548	-25.9745
608.950	-17.66	-37.778	-55.437	-43.227	-13.6846	-25.9745
608.960	-20.30	-37.74	-58.035	-45.825	-13.6145	-25.9745
608.970	-19.43	-37.705	-57.132	-44.922	-13.5446	-25.9745
608.980	-19.86	-37.665	-57.522	-45.312	-13.4748	-25.9745
608.990	-18.27	-37.616	-55.890	-43.680	-13.4051	-25.9745
609.000	-12.31	-37.602	-49.908	-37.698	-13.3356	-25.9745
609.010	-16.60	-37.535	-54.134	-41.924	-13.2662	-25.9745
609.020	-18.87	-37.489	-56.354	-44.144	-13.197	-25.9745
609.030	-18.85	-37.453	-56.298	-44.088	-13.1279	-25.9745
609.040	-17.84	-37.409	-55.247	-43.037	-13.0589	-25.9745
609.050	-17.14	-37.369	-54.507	-42.297	-12.9901	-25.9745
609.060	-16.70	-37.315	-54.014	-41.804	-12.9214	-25.9745
609.070	-15.15	-37.284	-52.436	-40.226	-12.8529	-25.9745
609.080	-19.36	-37.243	-56.598	-44.388	-12.7845	-25.9745
609.090	-19.28	-37.187	-56.470	-44.260	-12.7162	-25.9745
609.100	-18.67	-37.133	-55.802	-43.592	-12.6481	-25.9745
609.110	-19.35	-37.1	-56.451	-44.241	-12.5801	-25.9745
609.120	-20.30	-37.043	-57.343	-45.133	-12.5123	-25.9745
609.130	-18.98	-37.007	-55.989	-43.779	-12.4446	-25.9745
609.140	-14.92	-36.951	-51.875	-39.665	-12.377	-25.9745
609.150	-17.56	-36.91	-54.465	-42.255	-12.3096	-25.9745
609.160	-18.04	-36.884	-54.919	-42.709	-12.2423	-25.9745
609.170	-19.14	-36.834	-55.975	-43.765	-12.1751	-25.9745
609.180	-18.81	-36.77	-55.578	-43.368	-12.1081	-25.9745
609.190	-18.55	-36.765	-55.317	-43.107	-12.0412	-25.9745
609.200	-17.77	-36.693	-54.466	-42.256	-11.9745	-25.9745
609.210	-18.15	-36.639	-54.785	-42.575	-11.9079	-25.9745
609.220	-17.19	-36.607	-53.800	-41.590	-11.8414	-25.9745
609.230	-16.29	-36.554	-52.843	-40.633	-11.7751	-25.9745
609.240	-17.77	-36.522	-54.292	-42.082	-11.7089	-25.9745
609.250	-18.27	-36.466	-54.732	-42.522	-11.6429	-25.9745
609.260	-17.60	-36.425	-54.022	-41.812	-11.577	-25.9745
609.270	-19.28	-36.375	-55.658	-43.448	-11.5112	-25.9745

609.280	-16.94	-36.335	-53.270	-41.060	-11.4456	-25.9745
609.290	-18.93	-36.286	-55.211	-43.001	-11.3801	-25.9745
609.300	-17.54	-36.237	-53.781	-41.571	-11.3148	-25.9745
609.310	-19.20	-36.189	-55.386	-43.176	-11.2496	-25.9745
609.320	-18.44	-36.137	-54.581	-42.371	-11.1845	-25.9745
609.330	-19.41	-36.097	-55.510	-43.300	-11.1196	-25.9745
609.340	-19.14	-36.065	-55.204	-42.994	-11.0548	-25.9745
609.350	-17.94	-36.028	-53.966	-41.756	-10.9901	-25.9745
609.360	-18.19	-35.962	-54.155	-41.945	-10.9256	-25.9745
609.370	-16.73	-35.918	-52.645	-40.435	-10.8612	-25.9745
609.380	-16.25	-35.872	-52.126	-39.916	-10.797	-25.9745
609.390	-17.71	-35.835	-53.542	-41.332	-10.7329	-25.9745
609.400	-17.61	-35.795	-53.404	-41.194	-10.6689	-25.9745
609.410	-18.81	-35.724	-54.535	-42.325	-10.6051	-25.9745
609.420	-17.47	-35.706	-53.171	-40.961	-10.5414	-25.9745
609.430	-17.61	-35.661	-53.270	-41.060	-10.4779	-25.9745
609.440	-18.00	-35.606	-53.607	-41.397	-10.4145	-25.9745
609.450	-18.62	-35.571	-54.189	-41.979	-10.3512	-25.9745
609.460	-18.99	-35.495	-54.481	-42.271	-10.2881	-25.9745
609.470	-17.39	-35.463	-52.855	-40.645	-10.2251	-25.9745
609.480	-17.71	-35.412	-53.119	-40.909	-10.1623	-25.9745
609.490	-19.42	-35.366	-54.790	-42.580	-10.0996	-25.9745
609.500	-17.66	-35.341	-53.004	-40.794	-10.037	-25.9745
609.510	-18.37	-35.286	-53.658	-41.448	-9.97457	-25.9745
609.520	-16.99	-35.255	-52.240	-40.030	-9.91228	-25.9745
609.530	-17.30	-35.198	-52.498	-40.288	-9.85012	-25.9745
609.540	-16.78	-35.131	-51.906	-39.696	-9.78811	-25.9745
609.550	-14.84	-35.091	-49.931	-37.721	-9.72623	-25.9745
609.560	-15.81	-35.034	-50.839	-38.629	-9.6645	-25.9745
609.570	-16.25	-34.983	-51.234	-39.024	-9.6029	-25.9745
609.580	-17.28	-34.947	-52.231	-40.021	-9.54144	-25.9745
609.590	-16.14	-34.894	-51.035	-38.825	-9.48012	-25.9745
609.600	-14.79	-34.839	-49.628	-37.418	-9.41894	-25.9745
609.610	-16.86	-34.772	-51.636	-39.426	-9.3579	-25.9745
609.620	-16.93	-34.777	-51.703	-39.493	-9.297	-25.9745
609.630	-17.51	-34.731	-52.239	-40.029	-9.23623	-25.9745
609.640	-17.77	-34.659	-52.424	-40.214	-9.17561	-25.9745
609.650	-15.67	-34.613	-50.280	-38.070	-9.11512	-25.9745
609.660	-18.92	-34.582	-53.499	-41.289	-9.05478	-25.9745
609.670	-20.40	-34.523	-54.927	-42.717	-8.99457	-25.9745
609.680	-19.42	-34.469	-53.892	-41.682	-8.9345	-25.9745
609.690	-20.13	-34.418	-54.549	-42.339	-8.87457	-25.9745
609.700	-15.72	-34.367	-50.086	-37.876	-8.81478	-25.9745
609.710	-18.09	-34.335	-52.421	-40.211	-8.75512	-25.9745
609.720	-19.03	-34.281	-53.313	-41.103	-8.69561	-25.9745
609.730	-17.73	-34.248	-51.978	-39.768	-8.63623	-25.9745

609.740	-17.90	-34.199	-52.098	-39.888	-8.577	-25.9745
609.750	-20.07	-34.165	-54.235	-42.025	-8.5179	-25.9745
609.760	-17.45	-34.122	-51.569	-39.359	-8.45894	-25.9745
609.770	-19.10	-34.035	-53.137	-40.927	-8.40012	-25.9745
609.780	-18.39	-33.989	-52.381	-40.171	-8.34144	-25.9745
609.790	-18.46	-33.954	-52.413	-40.203	-8.2829	-25.9745
609.800	-19.16	-33.9	-53.064	-40.854	-8.2245	-25.9745
609.810	-18.75	-33.832	-52.581	-40.371	-8.16623	-25.9745
609.820	-18.97	-33.803	-52.771	-40.561	-8.10811	-25.9745
609.830	-12.87	-33.736	-46.610	-34.400	-8.05012	-25.9745
609.840	-14.07	-33.685	-47.758	-35.548	-7.99228	-25.9745
609.850	-17.60	-33.636	-51.239	-39.029	-7.93457	-25.9745
609.860	-19.50	-33.59	-53.089	-40.879	-7.877	-25.9745
609.870	-14.56	-33.558	-48.114	-35.904	-7.81957	-25.9745
609.880	-18.55	-33.517	-52.070	-39.860	-7.76228	-25.9745
609.890	-16.25	-33.453	-49.700	-37.490	-7.70512	-25.9745
609.900	-17.29	-33.403	-50.695	-38.485	-7.64811	-25.9745
609.910	-15.51	-33.356	-48.867	-36.657	-7.59123	-25.9745
609.920	-17.29	-33.307	-50.599	-38.389	-7.5345	-25.9745
609.930	-17.90	-33.236	-51.136	-38.926	-7.4779	-25.9745
609.940	-15.51	-33.215	-48.721	-36.511	-7.42144	-25.9745
609.950	-14.17	-33.147	-47.321	-35.111	-7.36512	-25.9745
609.960	-15.23	-33.114	-48.343	-36.133	-7.30894	-25.9745
609.970	-15.38	-33.083	-48.460	-36.250	-7.2529	-25.9745
609.980	-19.86	-33.011	-52.867	-40.657	-7.197	-25.9745
609.990	-18.16	-32.954	-51.112	-38.902	-7.14123	-25.9745
610.000	-16.94	-32.905	-49.842	-37.632	-7.08561	-25.9745
610.010	-18.17	-32.85	-51.015	-38.805	-7.03012	-25.9745
610.020	-19.63	-32.794	-52.423	-40.213	-6.97478	-25.9745
610.030	-14.84	-32.768	-47.610	-35.400	-6.91957	-25.9745
610.040	-15.41	-32.708	-48.113	-35.903	-6.8645	-25.9745
610.050	-18.27	-32.648	-50.915	-38.705	-6.80957	-25.9745
610.060	-19.49	-32.592	-52.085	-39.875	-6.75478	-25.9745
610.070	-19.70	-32.542	-52.246	-40.036	-6.70012	-25.9745
610.080	-16.47	-32.496	-48.966	-36.756	-6.64561	-25.9745
610.090	-18.20	-32.457	-50.658	-38.448	-6.59123	-25.9745
610.100	-17.02	-32.421	-49.438	-37.228	-6.537	-25.9745
610.110	-17.66	-32.356	-50.020	-37.810	-6.4829	-25.9745
610.120	-17.57	-32.31	-49.876	-37.666	-6.42894	-25.9745
610.130	-14.62	-32.257	-46.875	-34.665	-6.37512	-25.9745
610.140	-22.03	-32.203	-54.237	-42.027	-6.32144	-25.9745
610.150	-19.02	-32.148	-51.171	-38.961	-6.2679	-25.9745
610.160	-17.73	-32.104	-49.832	-37.622	-6.2145	-25.9745
610.170	-18.51	-32.046	-50.560	-38.350	-6.16123	-25.9745
610.180	-14.85	-32.002	-46.850	-34.640	-6.10811	-25.9745
610.190	-17.23	-31.944	-49.172	-36.962	-6.05512	-25.9745

610.200	-16.20	-31.892	-48.095	-35.885	-6.00228	-25.9745
610.210	-17.34	-31.856	-49.200	-36.990	-5.94957	-25.9745
610.220	-16.23	-31.788	-48.021	-35.811	-5.897	-25.9745
610.230	-14.60	-31.75	-46.354	-34.144	-5.84457	-25.9745
610.240	-17.41	-31.686	-49.095	-36.885	-5.79228	-25.9745
610.250	-17.87	-31.639	-49.513	-37.303	-5.74012	-25.9745
610.260	-17.13	-31.568	-48.697	-36.487	-5.68811	-25.9745
610.270	-14.57	-31.514	-46.086	-33.876	-5.63623	-25.9745
610.280	-15.50	-31.489	-46.986	-34.776	-5.5845	-25.9745
610.290	-19.04	-31.44	-50.481	-38.271	-5.5329	-25.9745
610.300	-17.33	-31.394	-48.728	-36.518	-5.48144	-25.9745
610.310	-15.90	-31.332	-47.233	-35.023	-5.43012	-25.9745
610.320	-19.16	-31.27	-50.433	-38.223	-5.37894	-25.9745
610.330	-17.10	-31.236	-48.331	-36.121	-5.3279	-25.9745
610.340	-13.65	-31.154	-44.800	-32.590	-5.277	-25.9745
610.350	-15.91	-31.124	-47.038	-34.828	-5.22623	-25.9745
610.360	-20.50	-31.055	-51.559	-39.349	-5.17561	-25.9745
610.370	-16.61	-31.006	-47.617	-35.407	-5.12512	-25.9745
610.380	-14.00	-30.96	-44.956	-32.746	-5.07478	-25.9745
610.390	-13.19	-30.907	-44.095	-31.885	-5.02457	-25.9745
610.400	-15.67	-30.839	-46.511	-34.301	-4.9745	-25.9745
610.410	-17.29	-30.799	-48.084	-35.874	-4.92457	-25.9745
610.420	-18.01	-30.755	-48.766	-36.556	-4.87478	-25.9745
610.430	-15.40	-30.708	-46.109	-33.899	-4.82512	-25.9745
610.440	-17.93	-30.652	-48.585	-36.375	-4.77561	-25.9745
610.450	-16.42	-30.584	-46.999	-34.789	-4.72623	-25.9745
610.460	-18.33	-30.509	-48.841	-36.631	-4.677	-25.9745
610.470	-18.86	-30.485	-49.348	-37.138	-4.6279	-25.9745
610.480	-12.02	-30.435	-42.451	-30.241	-4.57894	-25.9745
610.490	-18.16	-30.376	-48.537	-36.327	-4.53012	-25.9745
610.500	-17.95	-30.323	-48.273	-36.063	-4.48144	-25.9745
610.510	-15.16	-30.26	-45.415	-33.205	-4.4329	-25.9745
610.520	-13.81	-30.213	-44.020	-31.810	-4.3845	-25.9745
610.530	-15.26	-30.134	-45.397	-33.187	-4.33623	-25.9745
610.540	-16.63	-30.097	-46.725	-34.515	-4.28811	-25.9745
610.550	-13.49	-30.032	-43.526	-31.316	-4.24012	-25.9745
610.560	-16.39	-29.986	-46.380	-34.170	-4.19228	-25.9745
610.570	-15.68	-29.933	-45.617	-33.407	-4.14457	-25.9745
610.580	-15.80	-29.899	-45.694	-33.484	-4.097	-25.9745
610.590	-16.08	-29.839	-45.920	-33.710	-4.04957	-25.9745
610.600	-16.52	-29.764	-46.279	-34.069	-4.00228	-25.9745
610.610	-18.50	-29.722	-48.222	-36.012	-3.95512	-25.9745
610.620	-13.84	-29.681	-43.525	-31.315	-3.90811	-25.9745
610.630	-16.21	-29.623	-45.828	-33.618	-3.86123	-25.9745
610.640	-15.16	-29.558	-44.721	-32.511	-3.8145	-25.9745
610.650	-17.29	-29.486	-46.772	-34.562	-3.7679	-25.9745

610.660	-16.41	-29.429	-45.837	-33.627	-3.72144	-25.9745
610.670	-13.84	-29.392	-43.233	-31.023	-3.67512	-25.9745
610.680	-15.06	-29.329	-44.390	-32.180	-3.62894	-25.9745
610.690	-15.00	-29.271	-44.270	-32.060	-3.5829	-25.9745
610.700	-17.95	-29.217	-47.170	-34.960	-3.537	-25.9745
610.710	-16.91	-29.179	-46.090	-33.880	-3.49123	-25.9745
610.720	-17.35	-29.153	-46.502	-34.292	-3.44561	-25.9745
610.730	-14.03	-29.063	-43.089	-30.879	-3.40012	-25.9745
610.740	-17.07	-28.998	-46.068	-33.858	-3.35478	-25.9745
610.750	-15.87	-28.956	-44.825	-32.615	-3.30957	-25.9745
610.760	-14.38	-28.899	-43.283	-31.073	-3.2645	-25.9745
610.770	-15.85	-28.842	-44.689	-32.479	-3.21957	-25.9745
610.780	-14.51	-28.774	-43.280	-31.070	-3.17478	-25.9745
610.790	-14.33	-28.717	-43.049	-30.839	-3.13012	-25.9745
610.800	-16.25	-28.666	-44.919	-32.709	-3.08561	-25.9745
610.810	-18.97	-28.602	-47.574	-35.364	-3.04123	-25.9745
610.820	-17.52	-28.57	-46.094	-33.884	-2.997	-25.9745
610.830	-15.45	-28.546	-43.991	-31.781	-2.9529	-25.9745
610.840	-13.78	-28.459	-42.240	-30.030	-2.90894	-25.9745
610.850	-15.58	-28.381	-43.962	-31.752	-2.86512	-25.9745
610.860	-15.57	-28.324	-43.891	-31.681	-2.82144	-25.9745
610.870	-15.84	-28.267	-44.111	-31.901	-2.7779	-25.9745
610.880	-15.91	-28.233	-44.138	-31.928	-2.7345	-25.9745
610.890	-15.78	-28.188	-43.969	-31.759	-2.69123	-25.9745
610.900	-14.74	-28.127	-42.867	-30.657	-2.64811	-25.9745
610.910	-17.63	-28.027	-45.653	-33.443	-2.60512	-25.9745
610.920	-15.07	-27.983	-43.053	-30.843	-2.56228	-25.9745
610.930	-16.82	-27.939	-44.754	-32.544	-2.51957	-25.9745
610.940	-17.89	-27.871	-45.757	-33.547	-2.477	-25.9745
610.950	-14.99	-27.842	-42.832	-30.622	-2.43457	-25.9745
610.960	-16.25	-27.785	-44.037	-31.827	-2.39228	-25.9745
610.970	-18.17	-27.687	-45.854	-33.644	-2.35012	-25.9745
610.980	-18.62	-27.658	-46.274	-34.064	-2.30811	-25.9745
610.990	-18.45	-27.603	-46.056	-33.846	-2.26623	-25.9745
611.000	-11.52	-27.546	-39.069	-26.859	-2.2245	-25.9745
611.010	-17.13	-27.469	-44.594	-32.384	-2.1829	-25.609
611.020	-15.45	-27.412	-42.863	-30.653	-2.14144	-25.494
611.030	-14.08	-27.36	-41.438	-29.228	-2.10012	-25.379
611.040	-16.60	-27.338	-43.941	-31.731	-2.05894	-25.264
611.050	-16.87	-27.236	-44.108	-31.898	-2.0179	-25.149
611.060	-15.91	-27.198	-43.108	-30.898	-1.977	-25.034
611.070	-17.79	-27.149	-44.939	-32.729	-1.93623	-24.919
611.080	-16.21	-27.087	-43.294	-31.084	-1.89561	-24.804
611.090	-15.73	-27.01	-42.737	-30.527	-1.85512	-24.689
611.100	-13.10	-26.954	-40.058	-27.848	-1.81478	-24.574
611.110	-16.25	-26.889	-43.143	-30.933	-1.77457	-24.459

611.120	-15.87	-26.833	-42.701	-30.491	-1.7345	-24.344
611.130	-16.04	-26.762	-42.806	-30.596	-1.69457	-24.229
611.140	-13.70	-26.727	-40.423	-28.213	-1.65478	-24.114
611.150	-17.13	-26.695	-43.825	-31.615	-1.61512	-23.999
611.160	-16.15	-26.592	-42.740	-30.530	-1.57561	-23.884
611.170	-17.12	-26.564	-43.688	-31.478	-1.53623	-23.769
611.180	-15.45	-26.504	-41.949	-29.739	-1.497	-23.654
611.190	-16.21	-26.464	-42.675	-30.465	-1.4579	-23.539
611.200	-14.94	-26.38	-41.324	-29.114	-1.41894	-23.424
611.210	-15.85	-26.33	-42.181	-29.971	-1.38012	-23.309
611.220	-15.33	-26.264	-41.591	-29.381	-1.34144	-23.194
611.230	-14.61	-26.182	-40.796	-28.586	-1.3029	-23.079
611.240	-18.47	-26.131	-44.596	-32.386	-1.2645	-22.964
611.250	-14.85	-26.074	-40.919	-28.709	-1.22623	-22.849
611.260	-16.45	-26.024	-42.470	-30.260	-1.18811	-22.734
611.270	-15.12	-25.942	-41.065	-28.855	-1.15012	-22.619
611.280	-11.66	-25.902	-37.563	-25.353	-1.11228	-22.504
611.290	-14.51	-25.856	-40.362	-28.152	-1.07457	-22.389
611.300	-15.01	-25.786	-40.793	-28.583	-1.037	-22.274
611.310	-14.96	-25.727	-40.685	-28.475	-0.99957	-22.159
611.320	-12.68	-25.68	-38.361	-26.151	-0.96228	-22.044
611.330	-14.15	-25.604	-39.757	-27.547	-0.92512	-21.929
611.340	-17.20	-25.547	-42.746	-30.536	-0.88811	-21.814
611.350	-17.56	-25.49	-43.045	-30.835	-0.85123	-21.699
611.360	-15.57	-25.421	-40.987	-28.777	-0.8145	-21.584
611.370	-15.53	-25.355	-40.881	-28.671	-0.7779	-21.469
611.380	-14.15	-25.306	-39.460	-27.250	-0.74144	-21.354
611.390	-13.61	-25.251	-38.863	-26.653	-0.70512	-21.239
611.400	-16.04	-25.161	-41.203	-28.993	-0.66894	-21.124
611.410	-12.82	-25.112	-37.927	-25.717	-0.6329	-21.009
611.420	-15.46	-25.062	-40.521	-28.311	-0.597	-20.894
611.430	-17.00	-25.005	-42.002	-29.792	-0.56123	-20.779
611.440	-16.03	-24.944	-40.977	-28.767	-0.52561	-20.664
611.450	-15.40	-24.881	-40.283	-28.073	-0.49012	-20.549
611.460	-16.04	-24.806	-40.846	-28.636	-0.45478	-20.434
611.470	-13.85	-24.742	-38.587	-26.377	-0.41957	-20.319
611.480	-14.34	-24.69	-39.025	-26.815	-0.3845	-20.204
611.490	-17.47	-24.63	-42.097	-29.887	-0.34957	-20.089
611.500	-13.64	-24.566	-38.204	-25.994	-0.31478	-19.974
611.510	-14.94	-24.493	-39.434	-27.224	-0.28012	-19.859
611.520	-15.62	-24.456	-40.075	-27.865	-0.24561	-19.744
611.530	-15.18	-24.401	-39.580	-27.370	-0.21123	-19.629
611.540	-17.34	-24.354	-41.697	-29.487	-0.177	-19.514
611.550	-12.44	-24.268	-36.703	-24.493	-0.1429	-19.399
611.560	-12.51	-24.199	-36.705	-24.495	-0.10894	-19.284
611.570	-14.41	-24.145	-38.551	-26.341	-0.07512	-19.169

611.580	-14.67	-24.1	-38.766	-26.556	-0.04144	-19.054
611.590	-12.53	-24.02	-36.553	-24.343	-0.0079	-18.939
611.600	-17.85	-23.973	-41.819	-29.609	0.025501	-18.824
611.610	-15.35	-23.887	-39.240	-27.030	0.058765	-18.709
611.620	-17.29	-23.83	-41.123	-28.913	0.09189	-18.594
611.630	-15.35	-23.753	-39.107	-26.897	0.124876	-18.479
611.640	-16.53	-23.709	-40.237	-28.027	0.157723	-18.364
611.650	-14.41	-23.651	-38.063	-25.853	0.190432	-18.249
611.660	-14.62	-23.585	-38.204	-25.994	0.223001	-18.134
611.670	-16.03	-23.523	-39.555	-27.345	0.255432	-18.019
611.680	-18.27	-23.454	-41.728	-29.518	0.287723	-17.904
611.690	-15.64	-23.4	-39.035	-26.825	0.319876	-17.789
611.700	-16.72	-23.351	-40.069	-27.859	0.35189	-17.674
611.710	-18.00	-23.298	-41.297	-29.087	0.383765	-17.559
611.720	-14.00	-23.231	-37.226	-25.016	0.415501	-17.444
611.730	-16.66	-23.146	-39.803	-27.593	0.447098	-17.329
611.740	-16.16	-23.075	-39.236	-27.026	0.478557	-17.214
611.750	-14.90	-23.04	-37.938	-25.728	0.509876	-17.099
611.760	-11.62	-22.98	-34.604	-22.394	0.541057	-16.984
611.770	-13.94	-22.916	-36.857	-24.647	0.572098	-16.869
611.780	-14.05	-22.843	-36.893	-24.683	0.603001	-16.754
611.790	-15.40	-22.776	-38.172	-25.962	0.633765	-16.639
611.800	-15.07	-22.729	-37.796	-25.586	0.66439	-16.524
611.810	-13.17	-22.676	-35.850	-23.640	0.694876	-16.409
611.820	-15.45	-22.564	-38.010	-25.800	0.725223	-16.294
611.830	-14.47	-22.538	-37.009	-24.799	0.755432	-16.179
611.840	-12.34	-22.443	-34.782	-22.572	0.785501	-16.064
611.850	-15.86	-22.412	-38.272	-26.062	0.815432	-15.949
611.860	-14.55	-22.351	-36.905	-24.695	0.845223	-15.834
611.870	-14.10	-22.27	-36.372	-24.162	0.874876	-15.719
611.880	-16.73	-22.198	-38.923	-26.713	0.90439	-15.604
611.890	-16.31	-22.138	-38.445	-26.235	0.933765	-15.489
611.900	-16.27	-22.087	-38.358	-26.148	0.963001	-15.374
611.910	-17.34	-22.03	-39.368	-27.158	0.992098	-15.259
611.920	-13.76	-21.996	-35.752	-23.542	1.021057	-15.144
611.930	-13.25	-21.901	-35.155	-22.945	1.049876	-15.029
611.940	-14.73	-21.839	-36.571	-24.361	1.078557	-14.914
611.950	-16.47	-21.77	-38.235	-26.025	1.107098	-14.799
611.960	-13.80	-21.727	-35.522	-23.312	1.135501	-14.684
611.970	-16.67	-21.662	-38.332	-26.122	1.163765	-14.569
611.980	-14.00	-21.582	-35.585	-23.375	1.19189	-14.454
611.990	-16.46	-21.544	-38.004	-25.794	1.219876	-14.339
612.000	-14.46	-21.456	-35.918	-23.708	1.247723	-14.224
612.010	-12.61	-21.414	-34.022	-21.812	1.275432	-14.109
612.020	-13.35	-21.325	-34.671	-22.461	1.303001	-13.994
612.030	-14.90	-21.273	-36.172	-23.962	1.330432	-13.879

612.040	-14.68	-21.22	-35.895	-23.685	1.357723	-13.764
612.050	-15.24	-21.178	-36.415	-24.205	1.384876	-13.649
612.060	-15.22	-21.073	-36.296	-24.086	1.41189	-13.534
612.070	-15.22	-21.007	-36.228	-24.018	1.438765	-13.419
612.080	-15.68	-20.968	-36.652	-24.442	1.465501	-13.304
612.090	-15.58	-20.89	-36.468	-24.258	1.492098	-13.189
612.100	-16.95	-20.837	-37.783	-25.573	1.518557	-13.074
612.110	-14.08	-20.797	-34.877	-22.667	1.544876	-12.959
612.120	-13.56	-20.738	-34.298	-22.088	1.571057	-12.844
612.130	-16.41	-20.646	-37.054	-24.844	1.597098	-12.729
612.140	-13.35	-20.598	-33.943	-21.733	1.623001	-12.614
612.150	-13.26	-20.546	-33.808	-21.598	1.648765	-12.499
612.160	-15.29	-20.465	-35.754	-23.544	1.67439	-12.384
612.170	-12.79	-20.399	-33.188	-20.978	1.699876	-12.269
612.180	-15.62	-20.354	-35.971	-23.761	1.725223	-12.154
612.190	-11.66	-20.271	-31.933	-19.723	1.750432	-12.039
612.200	-17.23	-20.227	-37.460	-25.250	1.775501	-11.924
612.210	-14.34	-20.171	-34.513	-22.303	1.800432	-11.809
612.220	-13.34	-20.121	-33.464	-21.254	1.825223	-11.694
612.230	-14.80	-20.035	-34.835	-22.625	1.849876	-11.579
612.240	-14.95	-19.988	-34.941	-22.731	1.87439	-11.464
612.250	-16.21	-19.925	-36.133	-23.923	1.898765	-11.349
612.260	-15.75	-19.861	-35.609	-23.399	1.923001	-11.234
612.270	-14.05	-19.799	-33.847	-21.637	1.947098	-11.119
612.280	-12.52	-19.753	-32.268	-20.058	1.971057	-11.004
612.290	-14.88	-19.682	-34.566	-22.356	1.994876	-10.889
612.300	-14.42	-19.614	-34.031	-21.821	2.018557	-10.774
612.310	-16.89	-19.531	-36.418	-24.208	2.042098	-10.659
612.320	-13.50	-19.478	-32.979	-20.769	2.065501	-10.544
612.330	-16.58	-19.441	-36.021	-23.811	2.088765	-10.429
612.340	-16.89	-19.371	-36.260	-24.050	2.11189	-10.314
612.350	-12.80	-19.322	-32.119	-19.909	2.134876	-10.199
612.360	-15.35	-19.257	-34.603	-22.393	2.157723	-10.084
612.370	-13.30	-19.217	-32.521	-20.311	2.180432	-9.969
612.380	-18.16	-19.154	-37.314	-25.104	2.203001	-9.854
612.390	-12.91	-19.084	-31.997	-19.787	2.225432	-9.739
612.400	-15.28	-19.028	-34.307	-22.097	2.247723	-9.624
612.410	-17.29	-18.966	-36.257	-24.047	2.269876	-9.509
612.420	-14.10	-18.915	-33.017	-20.807	2.29189	-9.394
612.430	-15.63	-18.861	-34.488	-22.278	2.313765	-9.279
612.440	-13.31	-18.818	-32.127	-19.917	2.335501	-9.164
612.450	-13.17	-18.73	-31.899	-19.689	2.357098	-9.049
612.460	-12.41	-18.695	-31.105	-18.895	2.378557	-8.934
612.470	-13.54	-18.638	-32.179	-19.969	2.399876	-8.819
612.480	-16.79	-18.572	-35.362	-23.152	2.421057	-8.704
612.490	-16.56	-18.522	-35.080	-22.870	2.442098	-8.589

612.500	-13.66	-18.469	-32.131	-19.921	2.463001	-8.474
612.510	-14.62	-18.4	-33.016	-20.806	2.483765	-8.359
612.520	-13.31	-18.353	-31.658	-19.448	2.50439	-8.244
612.530	-13.30	-18.315	-31.618	-19.408	2.524876	-8.129
612.540	-12.21	-18.24	-30.450	-18.240	2.545223	-8.014
612.550	-14.62	-18.193	-32.816	-20.606	2.565432	-7.899
612.560	-11.33	-18.139	-29.468	-17.258	2.585501	-7.784
612.570	-10.98	-18.079	-29.057	-16.847	2.605432	-7.669
612.580	-13.16	-18.05	-31.206	-18.996	2.625223	-7.554
612.590	-14.40	-17.984	-32.382	-20.172	2.644876	-7.439
612.600	-15.40	-17.954	-33.357	-21.147	2.66439	-7.324
612.610	-12.25	-17.916	-30.164	-17.954	2.683765	-7.209
612.620	-12.78	-17.851	-30.631	-18.421	2.703001	-7.094
612.630	-16.46	-17.807	-34.266	-22.056	2.722098	-6.979
612.640	-13.56	-17.757	-31.316	-19.106	2.741057	-6.864
612.650	-14.74	-17.682	-32.421	-20.211	2.759876	-6.749
612.660	-13.76	-17.654	-31.411	-19.201	2.778557	-6.634
612.670	-17.52	-17.612	-35.130	-22.920	2.797098	-6.519
612.680	-13.28	-17.556	-30.833	-18.623	2.815501	-6.404
612.690	-14.04	-17.511	-31.548	-19.338	2.833765	-6.289
612.700	-13.46	-17.473	-30.936	-18.726	2.85189	-6.174
612.710	-16.27	-17.426	-33.698	-21.488	2.869876	-6.059
612.720	-16.05	-17.379	-33.424	-21.214	2.887723	-5.944
612.730	-13.69	-17.355	-31.046	-18.836	2.905432	-5.829
612.740	-16.26	-17.322	-33.577	-21.367	2.923001	-5.714
612.750	-9.94	-17.279	-27.214	-15.004	2.940432	-5.599
612.760	-15.64	-17.238	-32.876	-20.666	2.957723	-5.484
612.770	-11.83	-17.2	-29.032	-16.822	2.974876	-5.369
612.780	-11.82	-17.159	-28.980	-16.770	2.99189	-5.254
612.790	-17.16	-17.134	-34.291	-22.081	3.008765	-5.139
612.800	-13.66	-17.086	-30.749	-18.539	3.025501	-5.024
612.810	-14.79	-17.07	-31.862	-19.652	3.042098	-4.909
612.820	-13.55	-17.04	-30.594	-18.384	3.058557	-4.794
612.830	-11.34	-16.988	-28.329	-16.119	3.074876	-4.679
612.840	-9.34	-16.966	-26.310	-14.100	3.091057	-4.564
612.850	-13.08	-16.95	-30.030	-17.820	3.107098	-4.449
612.860	-13.91	-16.905	-30.812	-18.602	3.123001	-4.334
612.870	-14.74	-16.912	-31.650	-19.440	3.138765	-4.219
612.880	-13.60	-16.884	-30.479	-18.269	3.15439	-4.104
612.890	-15.11	-16.829	-31.937	-19.727	3.169876	-3.989
612.900	-12.21	-16.826	-29.035	-16.825	3.185223	-3.874
612.910	-13.21	-16.815	-30.023	-17.813	3.200432	-3.759
612.920	-14.86	-16.795	-31.656	-19.446	3.215501	-3.644
612.930	-14.91	-16.795	-31.707	-19.497	3.230432	-3.529
612.940	-17.61	-16.763	-34.376	-22.166	3.245223	-3.414
612.950	-13.55	-16.752	-30.303	-18.093	3.259876	-3.299

612.960	-14.29	-16.754	-31.044	-18.834	3.27439	-3.184
612.970	-12.12	-16.744	-28.866	-16.656	3.288765	-3.069
612.980	-12.56	-16.76	-29.324	-17.114	3.303001	-2.954
612.990	-10.68	-16.737	-27.412	-15.202	3.317098	-2.839
613.000	-15.11	-16.752	-31.861	-19.651	3.331057	-2.724
613.010	-11.72	-16.757	-28.472	-16.262	3.344876	-2.609
613.020	-12.75	-16.758	-29.503	-17.293	3.358557	-2.494
613.030	-12.44	-16.741	-29.185	-16.975	3.372098	-2.379
613.040	-13.38	-16.771	-30.149	-17.939	3.385501	-2.264
613.050	-17.45	-16.801	-34.255	-22.045	3.398765	-2.149
613.060	-16.09	-16.831	-32.916	-20.706	3.41189	-2.034
613.070	-15.93	-16.845	-32.771	-20.561	3.424876	-1.919
613.080	-14.73	-16.883	-31.610	-19.400	3.437723	-1.804
613.090	-12.84	-16.885	-29.721	-17.511	3.450432	-1.689
613.100	-14.25	-16.935	-31.180	-18.970	3.463001	-1.574
613.110	-15.62	-16.986	-32.609	-20.399	3.475432	-1.459
613.120	-13.23	-17.023	-30.250	-18.040	3.487723	-1.344
613.130	-13.32	-17.072	-30.388	-18.178	3.499876	-1.229
613.140	-11.27	-17.142	-28.411	-16.201	3.51189	-1.114
613.150	-13.13	-17.2	-30.331	-18.121	3.523765	-0.999
613.160	-10.02	-17.273	-27.294	-15.084	3.535501	-0.884
613.170	-13.27	-17.336	-30.609	-18.399	3.547098	-0.769
613.180	-14.26	-17.406	-31.664	-19.454	3.558557	-0.654
613.190	-13.35	-17.487	-30.841	-18.631	3.569876	-0.539
613.200	-12.73	-17.592	-30.320	-18.110	3.581057	-0.424
613.210	-14.47	-17.682	-32.156	-19.946	3.592098	-0.309
613.220	-16.84	-17.76	-34.602	-22.392	3.603001	-0.194
613.230	-15.28	-17.875	-33.158	-20.948	3.613765	-0.079
613.240	-11.77	-17.98	-29.749	-17.539	3.62439	0.036
613.250	-13.17	-18.108	-31.274	-19.064	3.634876	0.151
613.260	-16.98	-18.254	-35.236	-23.026	3.645223	0.266
613.270	-13.07	-18.386	-31.456	-19.246	3.655432	0.381
613.280	-14.19	-18.517	-32.710	-20.500	3.665501	0.496
613.290	-13.75	-18.655	-32.403	-20.193	3.675432	0.611
613.300	-13.67	-18.817	-32.489	-20.279	3.685223	0.726
613.310	-12.03	-18.957	-30.982	-18.772	3.694876	0.841
613.320	-12.16	-19.126	-31.284	-19.074	3.70439	0.956
613.330	-13.20	-19.268	-32.469	-20.259	3.713765	1.071
613.340	-14.19	-19.41	-33.596	-21.386	3.723001	1.186
613.350	-11.34	-19.559	-30.902	-18.692	3.732098	1.301
613.360	-12.27	-19.697	-31.971	-19.761	3.741057	1.416
613.370	-15.82	-19.783	-35.601	-23.391	3.749876	1.531
613.380	-12.08	-19.884	-31.965	-19.755	3.758557	1.646
613.390	-13.13	-19.959	-33.089	-20.879	3.767098	1.761
613.400	-10.92	-19.979	-30.895	-18.685	3.775501	1.876
613.410	-12.89	-19.968	-32.862	-20.652	3.783765	1.991

613.420	-10.19	-19.905	-30.091	-17.881	3.79189	2.106
613.430	-10.04	-19.8	-29.839	-17.629	3.799876	2.221
613.440	-13.70	-19.607	-33.302	-21.092	3.807723	2.336
613.450	-13.37	-19.408	-32.779	-20.569	3.815432	2.451
613.460	-13.36	-19.14	-32.502	-20.292	3.823001	2.566
613.470	-14.21	-18.787	-32.997	-20.787	3.830432	2.681
613.480	-12.46	-18.414	-30.877	-18.667	3.837723	2.796
613.490	-13.40	-17.991	-31.392	-19.182	3.844876	2.911
613.500	-11.74	-17.544	-29.282	-17.072	3.85189	3.026
613.510	-15.22	-17.098	-32.318	-20.108	3.858765	3.026
613.520	-13.85	-16.584	-30.438	-18.228	3.865501	3.026
613.530	-13.22	-16.063	-29.281	-17.071	3.872098	3.026
613.540	-14.79	-15.552	-30.340	-18.130	3.878557	3.026
613.550	-14.10	-15.033	-29.133	-16.923	3.884876	3.026
613.560	-13.08	-14.515	-27.598	-15.388	3.891057	3.026
613.570	-15.30	-14	-29.302	-17.092	3.897098	3.026
613.580	-15.63	-13.508	-29.133	-16.923	3.903001	3.026
613.590	-13.33	-13.006	-26.331	-14.121	3.908765	3.026
613.600	-11.93	-12.515	-24.449	-12.239	3.91439	3.026
613.610	-13.72	-12.045	-25.766	-13.556	3.919876	3.026
613.620	-10.45	-11.588	-22.041	-9.831	3.925223	3.026
613.630	-9.28	-11.151	-20.432	-8.222	3.930432	3.026
613.640	-12.60	-10.709	-23.309	-11.099	3.935501	3.026
613.650	-15.33	-10.262	-25.596	-13.386	3.940432	3.026
613.660	-13.27	-9.87	-23.135	-10.925	3.945223	3.026
613.670	-12.56	-9.475	-22.037	-9.827	3.949876	3.026
613.680	-10.70	-9.08	-19.784	-7.574	3.95439	3.026
613.690	-13.14	-8.736	-21.875	-9.665	3.958765	3.026
613.700	-14.15	-8.396	-22.547	-10.337	3.963001	3.026
613.710	-11.43	-8.043	-19.476	-7.266	3.967098	3.026
613.720	-13.02	-7.713	-20.732	-8.522	3.971057	3.026
613.730	-15.41	-7.4	-22.808	-10.598	3.974876	3.026
613.740	-12.54	-7.135	-19.679	-7.469	3.978557	3.026
613.750	-13.23	-6.857	-20.091	-7.881	3.982098	3.026
613.760	-13.52	-6.593	-20.112	-7.902	4.025501	3.025501
613.770	-11.96	-6.35	-18.314	-6.104	4.025501	3.025501
613.780	-11.86	-6.112	-17.972	-5.762	4.025501	3.025501
613.790	-10.96	-5.893	-16.851	-4.641	4.025501	3.025501
613.800	-13.82	-5.654	-19.473	-7.263	4.025501	3.025501
613.810	-15.51	-5.459	-20.969	-8.759	4.025501	3.025501
613.820	-13.99	-5.278	-19.265	-7.055	4.025501	3.025501
613.830	-10.72	-5.12	-15.844	-3.634	4.025501	3.025501
613.840	-11.33	-4.933	-16.267	-4.057	4.025501	3.025501
613.850	-12.97	-4.77	-17.739	-5.529	4.025501	3.025501
613.860	-13.18	-4.6	-17.779	-5.569	4.025501	3.025501
613.870	-12.18	-4.463	-16.639	-4.429	4.025501	3.025501

613.880	-10.55	-4.339	-14.885	-2.675	4.025501	3.025501
613.890	-10.02	-4.215	-14.238	-2.028	4.025501	3.025501
613.900	-13.02	-4.1	-17.115	-4.905	4.025501	3.025501
613.910	-11.18	-3.95	-15.131	-2.921	4.025501	3.025501
613.920	-10.41	-3.857	-14.269	-2.059	4.025501	3.025501
613.930	-10.65	-3.771	-14.425	-2.215	4.025501	3.025501
613.940	-11.17	-3.693	-14.867	-2.657	4.025501	3.025501
613.950	-9.46	-3.595	-13.056	-0.846	4.025501	3.025501
613.960	-9.12	-3.498	-12.617	-0.407	4.025501	3.025501
613.970	-13.32	-3.416	-16.736	-4.526	4.025501	3.025501
613.980	-9.92	-3.343	-13.259	-1.049	4.025501	3.025501
613.990	-13.13	-3.277	-16.410	-4.200	4.025501	3.025501
Lower Band Edge						
614.000	-11.47	-3.218	-14.684	-2.474	4.025501	3.025501
614.010	-7.98	-3.158	-11.137	1.073	50.0255	50.026
614.020	-5.65	-3.079	-8.726	3.484	50.0255	50.026
614.030	2.25	-3.044	-0.790	11.420	50.0255	50.026
614.040	7.24	-2.977	4.258	16.468	50.0255	50.026
614.050	10.76	-2.898	7.860	20.070	50.0255	50.026
614.060	8.48	-2.849	5.628	17.838	50.0255	50.026
614.070	13.65	-2.818	10.835	23.045	50.0255	50.026
614.080	15.08	-2.796	12.279	24.489	50.0255	50.026
614.090	17.51	-2.732	14.777	26.987	50.0255	50.026
614.100	17.44	-2.698	14.745	26.955	50.0255	50.026
614.110	17.67	-2.637	15.029	27.239	50.0255	50.026
614.120	18.34	-2.611	15.726	27.936	50.0255	50.026
614.130	19.79	-2.576	17.212	29.422	50.0255	50.026
614.140	21.30	-2.562	18.741	30.951	50.0255	50.026
614.150	20.42	-2.527	17.889	30.099	50.0255	50.026
614.160	23.56	-2.47	21.094	33.304	50.0255	50.026
614.170	24.03	-2.455	21.578	33.788	50.0255	50.026
614.180	18.99	-2.428	16.565	28.775	50.0255	50.026
614.190	22.54	-2.397	20.138	32.348	50.0255	50.026
614.200	20.07	-2.375	17.692	29.902	50.0255	50.026
614.210	23.32	-2.341	20.974	33.184	50.0255	50.026
614.220	21.09	-2.322	18.771	30.981	50.0255	50.026
614.230	21.66	-2.298	19.358	31.568	50.0255	50.026
614.240	20.65	-2.259	18.386	30.596	50.0255	50.026
614.250	23.92	-2.237	21.683	33.893	50.0255	50.026
614.260	26.98	-2.22	24.757	36.967	50.0255	50.026
614.270	24.61	-2.198	22.409	34.619	50.0255	50.026
614.280	25.83	-2.189	23.640	35.850	50.0255	50.026
614.290	25.54	-2.165	23.378	35.588	50.0255	50.026
614.300	30.97	-2.155	28.816	41.026	50.0255	50.026
614.310	46.17	-2.125	44.048	56.258	50.0255	50.026
614.320	25.22	-2.112	23.105	35.315	50.0255	50.026

614.330	24.36	-2.108	22.254	34.464	50.0255	50.026
614.340	25.37	-2.078	23.296	35.506	50.0255	50.026
614.350	26.39	-2.049	24.340	36.550	50.0255	50.026
614.360	27.53	-2.034	25.499	37.709	50.0255	50.026
614.370	28.55	-2.016	26.536	38.746	50.0255	50.026
614.380	30.56	-2.003	28.557	40.767	50.0255	50.026
614.390	30.51	-1.986	28.522	40.732	50.0255	50.026
614.400	26.18	-1.966	24.217	36.427	50.0255	50.026
614.410	28.71	-1.958	26.752	38.962	50.0255	50.026
614.420	30.08	-1.952	28.130	40.340	50.0255	50.026
614.430	30.74	-1.942	28.796	41.006	50.0255	50.026
614.440	29.99	-1.914	28.076	40.286	50.0255	50.026
614.450	26.01	-1.908	24.104	36.314	50.0255	50.026
614.460	29.53	-1.893	27.634	39.844	50.0255	50.026
614.470	26.26	-1.873	24.388	36.598	50.0255	50.026
614.480	29.80	-1.884	27.916	40.126	50.0255	50.026
614.490	30.05	-1.858	28.187	40.397	50.0255	50.026
614.500	29.55	-1.846	27.708	39.918	50.0255	50.026
614.510	29.18	-1.843	27.337	39.547	50.0255	50.026
614.520	24.71	-1.825	22.887	35.097	50.0255	50.026
614.530	24.86	-1.812	23.043	35.253	50.0255	50.026
614.540	29.00	-1.812	27.184	39.394	50.0255	50.026
614.550	32.20	-1.802	30.393	42.603	50.0255	50.026
614.560	29.20	-1.792	27.408	39.618	50.0255	50.026
614.570	29.42	-1.775	27.640	39.850	50.0255	50.026
614.580	27.91	-1.741	26.165	38.375	50.0255	50.026
614.590	30.91	-1.742	29.166	41.376	50.0255	50.026
614.600	27.81	-1.715	26.090	38.300	50.0255	50.026
614.610	28.75	-1.721	27.025	39.235	50.0255	50.026
614.620	30.15	-1.725	28.423	40.633	50.0255	50.026
614.630	26.45	-1.698	24.751	36.961	50.0255	50.026
614.640	27.16	-1.694	25.465	37.675	50.0255	50.026
614.650	29.64	-1.679	27.960	40.170	50.0255	50.026
614.660	31.38	-1.674	29.710	41.920	50.0255	50.026
614.670	25.58	-1.668	23.916	36.126	50.0255	50.026
614.680	26.58	-1.661	24.915	37.125	50.0255	50.026
614.690	26.54	-1.64	24.900	37.110	50.0255	50.026
614.700	31.10	-1.626	29.473	41.683	50.0255	50.026
614.710	28.61	-1.632	26.978	39.188	50.0255	50.026
614.720	28.97	-1.623	27.347	39.557	50.0255	50.026
614.730	26.31	-1.624	24.682	36.892	50.0255	50.026
614.740	29.85	-1.616	28.231	40.441	50.0255	50.026
614.750	30.52	-1.598	28.920	41.130	50.0255	50.026
614.760	26.75	-1.586	25.159	37.369	50.0255	50.026
614.770	28.88	-1.593	27.285	39.495	50.0255	50.026
614.780	26.59	-1.593	24.994	37.204	50.0255	50.026

614.790	29.16	-1.586	27.576	39.786	50.0255	50.026
614.800	29.48	-1.581	27.898	40.108	50.0255	50.026
614.810	29.43	-1.562	27.869	40.079	50.0255	50.026
614.820	28.64	-1.563	27.080	39.290	50.0255	50.026
614.830	29.31	-1.55	27.757	39.967	50.0255	50.026
614.840	30.58	-1.536	29.047	41.257	50.0255	50.026
614.850	29.21	-1.526	27.686	39.896	50.0255	50.026
614.860	27.56	-1.523	26.036	38.246	50.0255	50.026
614.870	27.29	-1.515	25.775	37.985	50.0255	50.026
614.880	26.77	-1.513	25.252	37.462	50.0255	50.026
614.890	30.61	-1.51	29.095	41.305	50.0255	50.026
614.900	30.40	-1.492	28.909	41.119	50.0255	50.026
614.910	26.70	-1.485	25.214	37.424	50.0255	50.026
614.920	29.25	-1.496	27.756	39.966	50.0255	50.026
614.930	29.30	-1.496	27.800	40.010	50.0255	50.026
614.940	30.98	-1.49	29.490	41.700	50.0255	50.026
614.950	27.91	-1.467	26.445	38.655	50.0255	50.026
614.960	25.64	-1.45	24.192	36.402	50.0255	50.026
614.970	26.73	-1.453	25.274	37.484	50.0255	50.026
614.980	27.91	-1.455	26.455	38.665	50.0255	50.026
614.990	30.17	-1.439	28.734	40.944	50.0255	50.026
615.000	29.17	-1.44	27.731	39.941	50.0255	50.026
615.010	27.04	-1.42	25.623	37.833	50.0255	50.026
615.020	26.27	-1.433	24.840	37.050	50.0255	50.026
615.030	27.86	-1.441	26.421	38.631	50.0255	50.026
615.040	28.79	-1.417	27.371	39.581	50.0255	50.026
615.050	28.45	-1.418	27.030	39.240	50.0255	50.026
615.060	29.32	-1.395	27.922	40.132	50.0255	50.026
615.070	28.52	-1.402	27.118	39.328	50.0255	50.026
615.080	28.75	-1.375	27.372	39.582	50.0255	50.026
615.090	30.95	-1.357	29.594	41.804	50.0255	50.026
615.100	29.10	-1.373	27.728	39.938	50.0255	50.026
615.110	28.77	-1.374	27.394	39.604	50.0255	50.026
615.120	28.29	-1.357	26.937	39.147	50.0255	50.026
615.130	29.12	-1.355	27.764	39.974	50.0255	50.026
615.140	25.74	-1.374	24.362	36.572	50.0255	50.026
615.150	28.27	-1.355	26.912	39.122	50.0255	50.026
615.160	27.28	-1.335	25.941	38.151	50.0255	50.026
615.170	27.60	-1.341	26.261	38.471	50.0255	50.026
615.180	28.21	-1.348	26.860	39.070	50.0255	50.026
615.190	29.18	-1.345	27.839	40.049	50.0255	50.026
615.200	29.77	-1.333	28.433	40.643	50.0255	50.026
615.210	26.89	-1.324	25.563	37.773	50.0255	50.026
615.220	26.14	-1.313	24.822	37.032	50.0255	50.026
615.230	25.71	-1.305	24.406	36.616	50.0255	50.026
615.240	31.56	-1.312	30.248	42.458	50.0255	50.026

615.250	27.47	-1.301	26.172	38.382	50.0255	50.026
615.260	30.26	-1.313	28.947	41.157	50.0255	50.026
615.270	28.74	-1.305	27.439	39.649	50.0255	50.026
615.280	29.27	-1.292	27.976	40.186	50.0255	50.026
615.290	28.50	-1.282	27.213	39.423	50.0255	50.026
615.300	27.38	-1.285	26.094	38.304	50.0255	50.026
615.310	31.04	-1.29	29.746	41.956	50.0255	50.026
615.320	29.91	-1.291	28.615	40.825	50.0255	50.026
615.330	27.30	-1.281	26.016	38.226	50.0255	50.026
615.340	27.13	-1.285	25.843	38.053	50.0255	50.026
615.350	29.67	-1.248	28.417	40.627	50.0255	50.026
615.360	30.12	-1.275	28.847	41.057	50.0255	50.026
615.370	28.48	-1.283	27.194	39.404	50.0255	50.026
615.380	28.32	-1.267	27.057	39.267	50.0255	50.026
615.390	24.35	-1.255	23.090	35.300	50.0255	50.026
615.400	24.60	-1.27	23.330	35.540	50.0255	50.026
615.410	28.94	-1.269	27.667	39.877	50.0255	50.026
615.420	28.42	-1.249	27.171	39.381	50.0255	50.026
615.430	24.88	-1.271	23.609	35.819	50.0255	50.026
615.440	29.23	-1.256	27.972	40.182	50.0255	50.026
615.450	23.58	-1.245	22.338	34.548	50.0255	50.026
615.460	28.74	-1.241	27.502	39.712	50.0255	50.026
615.470	28.14	-1.232	26.904	39.114	50.0255	50.026
615.480	29.16	-1.241	27.914	40.124	50.0255	50.026
615.490	29.52	-1.252	28.266	40.476	50.0255	50.026
615.500	27.76	-1.243	26.514	38.724	50.0255	50.026
615.510	32.18	-1.264	30.912	43.122	50.0255	50.026
615.520	27.22	-1.241	25.983	38.193	50.0255	50.026
615.530	31.02	-1.234	29.783	41.993	50.0255	50.026
615.540	27.24	-1.221	26.023	38.233	50.0255	50.026
615.550	32.39	-1.239	31.155	43.365	50.0255	50.026
615.560	31.12	-1.251	29.873	42.083	50.0255	50.026
615.570	29.42	-1.229	28.193	40.403	50.0255	50.026
615.580	28.69	-1.209	27.480	39.690	50.0255	50.026
615.590	26.77	-1.222	25.549	37.759	50.0255	50.026
615.600	26.45	-1.204	25.249	37.459	50.0255	50.026
615.610	30.52	-1.215	29.301	41.511	50.0255	50.026
615.620	30.12	-1.218	28.897	41.107	50.0255	50.026
615.630	30.46	-1.222	29.238	41.448	50.0255	50.026
615.640	29.33	-1.214	28.119	40.329	50.0255	50.026
615.650	30.05	-1.224	28.829	41.039	50.0255	50.026
615.660	28.01	-1.195	26.819	39.029	50.0255	50.026
615.670	21.28	-1.197	20.082	32.292	50.0255	50.026
615.680	30.31	-1.203	29.109	41.319	50.0255	50.026
615.690	30.91	-1.221	29.693	41.903	50.0255	50.026
615.700	25.43	-1.226	24.203	36.413	50.0255	50.026

615.710	29.55	-1.2	28.346	40.556	50.0255	50.026
615.720	23.58	-1.196	22.382	34.592	50.0255	50.026
615.730	26.86	-1.189	25.675	37.885	50.0255	50.026
615.740	28.54	-1.196	27.341	39.551	50.0255	50.026
615.750	27.12	-1.21	25.905	38.115	50.0255	50.026
615.760	28.53	-1.213	27.315	39.525	50.0255	50.026
615.770	27.64	-1.197	26.440	38.650	50.0255	50.026
615.780	28.65	-1.158	27.488	39.698	50.0255	50.026
615.790	24.20	-1.166	23.038	35.248	50.0255	50.026
615.800	31.89	-1.193	30.692	42.902	50.0255	50.026
615.810	27.44	-1.197	26.241	38.451	50.0255	50.026
615.820	27.13	-1.197	25.934	38.144	50.0255	50.026
615.830	25.75	-1.204	24.550	36.760	50.0255	50.026
615.840	31.12	-1.194	29.925	42.135	50.0255	50.026
615.850	29.54	-1.191	28.348	40.558	50.0255	50.026
615.860	26.46	-1.209	25.249	37.459	50.0255	50.026
615.870	25.42	-1.178	24.237	36.447	50.0255	50.026
615.880	30.20	-1.196	29.007	41.217	50.0255	50.026
615.890	28.83	-1.2	27.629	39.839	50.0255	50.026
615.900	27.27	-1.2	26.065	38.275	50.0255	50.026
615.910	30.61	-1.203	29.407	41.617	50.0255	50.026
615.920	29.06	-1.191	27.869	40.079	50.0255	50.026
615.930	31.60	-1.218	30.382	42.592	50.0255	50.026
615.940	32.05	-1.2	30.854	43.064	50.0255	50.026
615.950	28.24	-1.208	27.027	39.237	50.0255	50.026
615.960	29.81	-1.21	28.596	40.806	50.0255	50.026
615.970	28.42	-1.212	27.210	39.420	50.0255	50.026
615.980	31.85	-1.211	30.638	42.848	50.0255	50.026
615.990	26.32	-1.199	25.116	37.326	50.0255	50.026
616.000	24.55	-1.207	23.344	35.554	50.0255	50.026
616.010	29.19	-1.209	27.978	40.188	50.0255	50.026
616.020	27.53	-1.195	26.338	38.548	50.0255	50.026
616.030	27.24	-1.216	26.026	38.236	50.0255	50.026
616.040	28.35	-1.197	27.148	39.358	50.0255	50.026
616.050	29.30	-1.191	28.109	40.319	50.0255	50.026
616.060	27.99	-1.2	26.787	38.997	50.0255	50.026
616.070	23.51	-1.208	22.298	34.508	50.0255	50.026
616.080	27.37	-1.203	26.169	38.379	50.0255	50.026
616.090	23.84	-1.206	22.636	34.846	50.0255	50.026
616.100	28.97	-1.233	27.733	39.943	50.0255	50.026
616.110	28.19	-1.219	26.974	39.184	50.0255	50.026
616.120	27.99	-1.236	26.752	38.962	50.0255	50.026
616.130	29.68	-1.231	28.453	40.663	50.0255	50.026
616.140	27.20	-1.216	25.983	38.193	50.0255	50.026
616.150	29.04	-1.205	27.830	40.040	50.0255	50.026
616.160	23.96	-1.225	22.735	34.945	50.0255	50.026

616.170	30.40	-1.212	29.184	41.394	50.0255	50.026
616.180	28.75	-1.221	27.530	39.740	50.0255	50.026
616.190	27.66	-1.216	26.442	38.652	50.0255	50.026
616.200	27.69	-1.241	26.446	38.656	50.0255	50.026
616.210	27.29	-1.233	26.058	38.268	50.0255	50.026
616.220	27.57	-1.236	26.331	38.541	50.0255	50.026
616.230	28.95	-1.236	27.712	39.922	50.0255	50.026
616.240	29.47	-1.235	28.237	40.447	50.0255	50.026
616.250	29.08	-1.235	27.843	40.053	50.0255	50.026
616.260	26.00	-1.239	24.759	36.969	50.0255	50.026
616.270	27.99	-1.25	26.739	38.949	50.0255	50.026
616.280	30.02	-1.246	28.774	40.984	50.0255	50.026
616.290	30.32	-1.217	29.101	41.311	50.0255	50.026
616.300	30.21	-1.224	28.990	41.200	50.0255	50.026
616.310	28.67	-1.241	27.432	39.642	50.0255	50.026
616.320	30.93	-1.233	29.695	41.905	50.0255	50.026
616.330	30.62	-1.231	29.388	41.598	50.0255	50.026
616.340	29.27	-1.248	28.022	40.232	50.0255	50.026
616.350	29.08	-1.243	27.838	40.048	50.0255	50.026
616.360	28.57	-1.243	27.323	39.533	50.0255	50.026
616.370	29.40	-1.254	28.149	40.359	50.0255	50.026
616.380	26.77	-1.252	25.514	37.724	50.0255	50.026
616.390	28.47	-1.246	27.226	39.436	50.0255	50.026
616.400	31.40	-1.261	30.134	42.344	50.0255	50.026
616.410	28.78	-1.256	27.526	39.736	50.0255	50.026
616.420	29.19	-1.266	27.926	40.136	50.0255	50.026
616.430	28.84	-1.258	27.577	39.787	50.0255	50.026
616.440	30.66	-1.245	29.411	41.621	50.0255	50.026
616.450	27.77	-1.245	26.522	38.732	50.0255	50.026
616.460	30.55	-1.265	29.284	41.494	50.0255	50.026
616.470	30.23	-1.267	28.963	41.173	50.0255	50.026
616.480	30.33	-1.262	29.068	41.278	50.0255	50.026
616.490	26.91	-1.274	25.639	37.849	50.0255	50.026
616.500	29.27	-1.272	28.002	40.212	50.0255	50.026
616.510	25.86	-1.259	24.603	36.813	50.0255	50.026
616.520	26.43	-1.247	25.185	37.395	50.0255	50.026
616.530	30.43	-1.261	29.167	41.377	50.0255	50.026
616.540	29.25	-1.251	27.994	40.204	50.0255	50.026
616.550	26.27	-1.265	25.009	37.219	50.0255	50.026
616.560	27.71	-1.269	26.439	38.649	50.0255	50.026
616.570	30.97	-1.268	29.698	41.908	50.0255	50.026
616.580	26.45	-1.303	25.147	37.357	50.0255	50.026
616.590	25.60	-1.279	24.324	36.534	50.0255	50.026
616.600	29.14	-1.267	27.873	40.083	50.0255	50.026
616.610	26.97	-1.275	25.692	37.902	50.0255	50.026
616.620	28.55	-1.266	27.280	39.490	50.0255	50.026

616.630	28.93	-1.277	27.653	39.863	50.0255	50.026
616.640	28.64	-1.259	27.384	39.594	50.0255	50.026
616.650	28.99	-1.251	27.737	39.947	50.0255	50.026
616.660	27.45	-1.27	26.175	38.385	50.0255	50.026
616.670	28.71	-1.267	27.438	39.648	50.0255	50.026
616.680	28.03	-1.258	26.773	38.983	50.0255	50.026
616.690	30.37	-1.254	29.117	41.327	50.0255	50.026
616.700	27.67	-1.266	26.406	38.616	50.0255	50.026
616.710	31.51	-1.291	30.221	42.431	50.0255	50.026
616.720	28.19	-1.324	26.862	39.072	50.0255	50.026
616.730	30.79	-1.296	29.495	41.705	50.0255	50.026
616.740	30.80	-1.288	29.508	41.718	50.0255	50.026
616.750	26.96	-1.285	25.670	37.880	50.0255	50.026
616.760	28.10	-1.286	26.813	39.023	50.0255	50.026
616.770	28.33	-1.274	27.053	39.263	50.0255	50.026
616.780	32.03	-1.279	30.755	42.965	50.0255	50.026
616.790	27.49	-1.298	26.192	38.402	50.0255	50.026
616.800	31.76	-1.301	30.457	42.667	50.0255	50.026
616.810	28.54	-1.286	27.256	39.466	50.0255	50.026
616.820	28.53	-1.275	27.258	39.468	50.0255	50.026
616.830	28.22	-1.272	26.949	39.159	50.0255	50.026
616.840	24.78	-1.27	23.508	35.718	50.0255	50.026
616.850	28.93	-1.289	27.636	39.846	50.0255	50.026
616.860	29.13	-1.286	27.840	40.050	50.0255	50.026
616.870	29.00	-1.286	27.710	39.920	50.0255	50.026
616.880	27.30	-1.284	26.018	38.228	50.0255	50.026
616.890	28.49	-1.271	27.217	39.427	50.0255	50.026
616.900	27.11	-1.281	25.827	38.037	50.0255	50.026
616.910	30.02	-1.285	28.736	40.946	50.0255	50.026
616.920	31.73	-1.283	30.442	42.652	50.0255	50.026
616.930	31.67	-1.285	30.386	42.596	50.0255	50.026
616.940	26.09	-1.289	24.799	37.009	50.0255	50.026
616.950	28.37	-1.278	27.093	39.303	50.0255	50.026
616.960	25.04	-1.276	23.762	35.972	50.0255	50.026
616.970	27.60	-1.277	26.323	38.533	50.0255	50.026
616.980	29.12	-1.301	27.819	40.029	50.0255	50.026
616.990	26.90	-1.298	25.599	37.809	50.0255	50.026
617.000	27.67	-1.294	26.374	38.584	50.0255	50.026
617.010	28.22	-1.286	26.936	39.146	50.0255	50.026
617.020	30.51	-1.268	29.237	41.447	50.0255	50.026
617.030	30.51	-1.267	29.243	41.453	50.0255	50.026
617.040	27.32	-1.28	26.042	38.252	50.0255	50.026
617.050	28.17	-1.277	26.892	39.102	50.0255	50.026
617.060	31.23	-1.281	29.951	42.161	50.0255	50.026
617.070	30.30	-1.297	29.007	41.217	50.0255	50.026
617.080	29.17	-1.297	27.875	40.085	50.0255	50.026

617.090	27.75	-1.289	26.459	38.669	50.0255	50.026
617.100	29.20	-1.294	27.905	40.115	50.0255	50.026
617.110	33.33	-1.299	32.032	44.242	50.0255	50.026
617.120	29.59	-1.3	28.288	40.498	50.0255	50.026
617.130	28.39	-1.276	27.110	39.320	50.0255	50.026
617.140	27.39	-1.282	26.109	38.319	50.0255	50.026
617.150	27.49	-1.279	26.206	38.416	50.0255	50.026
617.160	27.68	-1.299	26.378	38.588	50.0255	50.026
617.170	27.95	-1.289	26.664	38.874	50.0255	50.026
617.180	28.60	-1.275	27.326	39.536	50.0255	50.026
617.190	31.37	-1.273	30.098	42.308	50.0255	50.026
617.200	30.86	-1.266	29.595	41.805	50.0255	50.026
617.210	27.01	-1.272	25.738	37.948	50.0255	50.026
617.220	28.64	-1.26	27.382	39.592	50.0255	50.026
617.230	28.90	-1.277	27.618	39.828	50.0255	50.026
617.240	26.26	-1.27	24.988	37.198	50.0255	50.026
617.250	27.38	-1.273	26.107	38.317	50.0255	50.026
617.260	28.80	-1.27	27.531	39.741	50.0255	50.026
617.270	28.60	-1.261	27.340	39.550	50.0255	50.026
617.280	27.75	-1.256	26.498	38.708	50.0255	50.026
617.290	28.33	-1.27	27.057	39.267	50.0255	50.026
617.300	27.68	-1.272	26.411	38.621	50.0255	50.026
617.310	27.91	-1.266	26.648	38.858	50.0255	50.026
617.320	29.68	-1.267	28.413	40.623	50.0255	50.026
617.330	31.71	-1.252	30.458	42.668	50.0255	50.026
617.340	30.35	-1.261	29.090	41.300	50.0255	50.026
617.350	28.64	-1.25	27.387	39.597	50.0255	50.026
617.360	27.97	-1.276	26.696	38.906	50.0255	50.026
617.370	29.62	-1.262	28.358	40.568	50.0255	50.026
617.380	32.00	-1.256	30.744	42.954	50.0255	50.026
617.390	31.51	-1.254	30.253	42.463	50.0255	50.026
617.400	25.29	-1.247	24.039	36.249	50.0255	50.026
617.410	26.06	-1.248	24.816	37.026	50.0255	50.026
617.420	28.88	-1.259	27.617	39.827	50.0255	50.026
617.430	28.86	-1.26	27.596	39.806	50.0255	50.026
617.440	27.01	-1.252	25.754	37.964	50.0255	50.026
617.450	31.44	-1.255	30.187	42.397	50.0255	50.026
617.460	27.52	-1.239	26.285	38.495	50.0255	50.026
617.470	28.15	-1.236	26.911	39.121	50.0255	50.026
617.480	29.46	-1.234	28.221	40.431	50.0255	50.026
617.490	29.93	-1.24	28.693	40.903	50.0255	50.026
617.500	30.49	-1.236	29.252	41.462	50.0255	50.026
617.510	29.46	-1.235	28.227	40.437	50.0255	50.026
617.520	32.28	-1.247	31.030	43.240	50.0255	50.026
617.530	33.54	-1.24	32.304	44.514	50.0255	50.026
617.540	25.79	-1.219	24.574	36.784	50.0255	50.026

617.550	31.52	-1.247	30.268	42.478	50.0255	50.026
617.560	27.93	-1.234	26.699	38.909	50.0255	50.026
617.570	29.10	-1.233	27.862	40.072	50.0255	50.026
617.580	28.38	-1.239	27.136	39.346	50.0255	50.026
617.590	27.21	-1.249	25.961	38.171	50.0255	50.026
617.600	25.55	-1.264	24.282	36.492	50.0255	50.026
617.610	28.18	-1.246	26.931	39.141	50.0255	50.026
617.620	30.07	-1.217	28.851	41.061	50.0255	50.026
617.630	30.02	-1.235	28.787	40.997	50.0255	50.026
617.640	31.39	-1.235	30.153	42.363	50.0255	50.026
617.650	30.39	-1.226	29.159	41.369	50.0255	50.026
617.660	29.60	-1.216	28.384	40.594	50.0255	50.026
617.670	29.12	-1.235	27.884	40.094	50.0255	50.026
617.680	26.36	-1.231	25.127	37.337	50.0255	50.026
617.690	28.86	-1.231	27.632	39.842	50.0255	50.026
617.700	32.17	-1.235	30.937	43.147	50.0255	50.026
617.710	27.98	-1.208	26.767	38.977	50.0255	50.026
617.720	29.18	-1.21	27.974	40.184	50.0255	50.026
617.730	29.09	-1.201	27.889	40.099	50.0255	50.026
617.740	24.84	-1.218	23.621	35.831	50.0255	50.026
617.750	27.19	-1.223	25.962	38.172	50.0255	50.026
617.760	28.34	-1.218	27.123	39.333	50.0255	50.026
617.770	24.68	-1.217	23.467	35.677	50.0255	50.026
617.780	27.56	-1.216	26.343	38.553	50.0255	50.026
617.790	30.02	-1.235	28.785	40.995	50.0255	50.026
617.800	29.13	-1.224	27.901	40.111	50.0255	50.026
617.810	30.54	-1.232	29.309	41.519	50.0255	50.026
617.820	30.70	-1.217	29.482	41.692	50.0255	50.026
617.830	28.98	-1.212	27.771	39.981	50.0255	50.026
617.840	26.83	-1.221	25.609	37.819	50.0255	50.026
617.850	30.81	-1.214	29.592	41.802	50.0255	50.026
617.860	28.99	-1.201	27.786	39.996	50.0255	50.026
617.870	29.84	-1.21	28.628	40.838	50.0255	50.026
617.880	30.06	-1.212	28.846	41.056	50.0255	50.026
617.890	29.11	-1.21	27.901	40.111	50.0255	50.026
617.900	28.03	-1.217	26.809	39.019	50.0255	50.026
617.910	30.25	-1.207	29.040	41.250	50.0255	50.026
617.920	30.23	-1.198	29.033	41.243	50.0255	50.026
617.930	29.47	-1.201	28.270	40.480	50.0255	50.026
617.940	28.47	-1.23	27.243	39.453	50.0255	50.026
617.950	29.33	-1.224	28.105	40.315	50.0255	50.026
617.960	27.46	-1.212	26.246	38.456	50.0255	50.026
617.970	29.26	-1.208	28.050	40.260	50.0255	50.026
617.980	26.29	-1.202	25.089	37.299	50.0255	50.026
617.990	30.85	-1.197	29.653	41.863	50.0255	50.026
618.000	30.77	-1.22	29.554	41.764	50.0255	50.026

618.010	24.92	-1.217	23.701	35.911	50.0255	50.026
618.020	25.65	-1.214	24.437	36.647	50.0255	50.026
618.030	28.09	-1.215	26.872	39.082	50.0255	50.026
618.040	27.97	-1.208	26.759	38.969	50.0255	50.026
618.050	30.61	-1.199	29.414	41.624	50.0255	50.026
618.060	27.58	-1.218	26.360	38.570	50.0255	50.026
618.070	30.16	-1.227	28.932	41.142	50.0255	50.026
618.080	27.62	-1.216	26.402	38.612	50.0255	50.026
618.090	30.37	-1.209	29.163	41.373	50.0255	50.026
618.100	29.74	-1.224	28.520	40.730	50.0255	50.026
618.110	31.70	-1.22	30.483	42.693	50.0255	50.026
618.120	27.36	-1.211	26.145	38.355	50.0255	50.026
618.130	28.77	-1.215	27.558	39.768	50.0255	50.026
618.140	25.24	-1.223	24.012	36.222	50.0255	50.026
618.150	27.31	-1.227	26.084	38.294	50.0255	50.026
618.160	28.27	-1.227	27.043	39.253	50.0255	50.026
618.170	29.74	-1.231	28.510	40.720	50.0255	50.026
618.180	27.66	-1.219	26.445	38.655	50.0255	50.026
618.190	27.21	-1.231	25.974	38.184	50.0255	50.026
618.200	27.23	-1.229	26.004	38.214	50.0255	50.026
618.210	28.90	-1.227	27.668	39.878	50.0255	50.026
618.220	28.57	-1.234	27.332	39.542	50.0255	50.026
618.230	31.46	-1.241	30.219	42.429	50.0255	50.026
618.240	28.04	-1.245	26.797	39.007	50.0255	50.026
618.250	27.97	-1.239	26.733	38.943	50.0255	50.026
618.260	30.75	-1.239	29.513	41.723	50.0255	50.026
618.270	28.67	-1.252	27.419	39.629	50.0255	50.026
618.280	27.05	-1.248	25.804	38.014	50.0255	50.026
618.290	27.76	-1.25	26.509	38.719	50.0255	50.026
618.300	29.33	-1.254	28.071	40.281	50.0255	50.026
618.310	29.27	-1.231	28.043	40.253	50.0255	50.026
618.320	26.08	-1.24	24.837	37.047	50.0255	50.026
618.330	27.75	-1.268	26.484	38.694	50.0255	50.026
618.340	30.59	-1.26	29.332	41.542	50.0255	50.026
618.350	26.83	-1.262	25.563	37.773	50.0255	50.026
618.360	30.09	-1.263	28.822	41.032	50.0255	50.026
618.370	28.41	-1.259	27.146	39.356	50.0255	50.026
618.380	28.58	-1.261	27.315	39.525	50.0255	50.026
618.390	30.38	-1.258	29.126	41.336	50.0255	50.026
618.400	29.54	-1.281	28.258	40.468	50.0255	50.026
618.410	32.20	-1.295	30.904	43.114	50.0255	50.026
618.420	28.25	-1.271	26.978	39.188	50.0255	50.026
618.430	30.08	-1.249	28.834	41.044	50.0255	50.026
618.440	26.50	-1.272	25.232	37.442	50.0255	50.026
618.450	26.59	-1.283	25.307	37.517	50.0255	50.026
618.460	29.05	-1.291	27.758	39.968	50.0255	50.026

618.470	25.76	-1.287	24.477	36.687	50.0255	50.026
618.480	27.75	-1.297	26.451	38.661	50.0255	50.026
618.490	29.68	-1.298	28.380	40.590	50.0255	50.026
618.500	25.10	-1.303	23.794	36.004	50.0255	50.026
618.510	31.86	-1.294	30.566	42.776	50.0255	50.026
618.520	29.99	-1.29	28.700	40.910	50.0255	50.026
618.530	28.45	-1.321	27.131	39.341	50.0255	50.026
618.540	32.84	-1.321	31.514	43.724	50.0255	50.026
618.550	27.78	-1.33	26.450	38.660	50.0255	50.026
618.560	29.21	-1.326	27.888	40.098	50.0255	50.026
618.570	28.98	-1.333	27.647	39.857	50.0255	50.026
618.580	28.62	-1.325	27.291	39.501	50.0255	50.026
618.590	28.75	-1.349	27.400	39.610	50.0255	50.026
618.600	28.84	-1.343	27.499	39.709	50.0255	50.026
618.610	30.21	-1.313	28.899	41.109	50.0255	50.026
618.620	29.05	-1.344	27.709	39.919	50.0255	50.026
618.630	31.09	-1.359	29.735	41.945	50.0255	50.026
618.640	28.77	-1.375	27.394	39.604	50.0255	50.026
618.650	27.46	-1.368	26.095	38.305	50.0255	50.026
618.660	29.75	-1.377	28.369	40.579	50.0255	50.026
618.670	30.17	-1.361	28.807	41.017	50.0255	50.026
618.680	28.20	-1.381	26.822	39.032	50.0255	50.026
618.690	28.51	-1.382	27.128	39.338	50.0255	50.026
618.700	31.30	-1.385	29.911	42.121	50.0255	50.026
618.710	27.75	-1.389	26.356	38.566	50.0255	50.026
618.720	29.56	-1.381	28.178	40.388	50.0255	50.026
618.730	29.05	-1.381	27.667	39.877	50.0255	50.026
618.740	31.98	-1.382	30.593	42.803	50.0255	50.026
618.750	29.28	-1.402	27.882	40.092	50.0255	50.026
618.760	29.44	-1.396	28.045	40.255	50.0255	50.026
618.770	25.96	-1.422	24.537	36.747	50.0255	50.026
618.780	31.36	-1.425	29.936	42.146	50.0255	50.026
618.790	27.36	-1.413	25.943	38.153	50.0255	50.026
618.800	26.71	-1.437	25.273	37.483	50.0255	50.026
618.810	28.06	-1.435	26.621	38.831	50.0255	50.026
618.820	29.11	-1.432	27.680	39.890	50.0255	50.026
618.830	29.35	-1.446	27.901	40.111	50.0255	50.026
618.840	28.21	-1.427	26.778	38.988	50.0255	50.026
618.850	27.37	-1.443	25.922	38.132	50.0255	50.026
618.860	29.33	-1.456	27.874	40.084	50.0255	50.026
618.870	28.01	-1.456	26.556	38.766	50.0255	50.026
618.880	28.68	-1.472	27.208	39.418	50.0255	50.026
618.890	27.12	-1.454	25.666	37.876	50.0255	50.026
618.900	27.18	-1.467	25.709	37.919	50.0255	50.026
618.910	28.01	-1.476	26.532	38.742	50.0255	50.026
618.920	29.92	-1.475	28.446	40.656	50.0255	50.026

618.930	30.19	-1.51	28.676	40.886	50.0255	50.026
618.940	29.37	-1.507	27.860	40.070	50.0255	50.026
618.950	26.73	-1.505	25.223	37.433	50.0255	50.026
618.960	28.75	-1.516	27.231	39.441	50.0255	50.026
618.970	27.67	-1.502	26.171	38.381	50.0255	50.026
618.980	28.34	-1.514	26.825	39.035	50.0255	50.026
618.990	28.96	-1.523	27.437	39.647	50.0255	50.026
619.000	27.36	-1.524	25.839	38.049	50.0255	50.026
619.010	29.72	-1.537	28.185	40.395	50.0255	50.026
619.020	28.82	-1.534	27.286	39.496	50.0255	50.026
619.030	28.70	-1.569	27.126	39.336	50.0255	50.026
619.040	29.74	-1.578	28.164	40.374	50.0255	50.026
619.050	27.82	-1.57	26.252	38.462	50.0255	50.026
619.060	29.74	-1.566	28.174	40.384	50.0255	50.026
619.070	26.73	-1.563	25.169	37.379	50.0255	50.026
619.080	28.64	-1.573	27.063	39.273	50.0255	50.026
619.090	27.43	-1.584	25.846	38.056	50.0255	50.026
619.100	28.68	-1.6	27.075	39.285	50.0255	50.026
619.110	28.53	-1.6	26.934	39.144	50.0255	50.026
619.120	25.61	-1.598	24.008	36.218	50.0255	50.026
619.130	27.86	-1.607	26.251	38.461	50.0255	50.026
619.140	28.53	-1.625	26.906	39.116	50.0255	50.026
619.150	30.02	-1.64	28.378	40.588	50.0255	50.026
619.160	30.44	-1.645	28.795	41.005	50.0255	50.026
619.170	30.18	-1.669	28.507	40.717	50.0255	50.026
619.180	29.06	-1.659	27.404	39.614	50.0255	50.026
619.190	26.85	-1.663	25.186	37.396	50.0255	50.026
619.200	29.77	-1.658	28.116	40.326	50.0255	50.026
619.210	28.20	-1.681	26.514	38.724	50.0255	50.026
619.220	22.23	-1.681	20.544	32.754	50.0255	50.026
619.230	30.21	-1.675	28.532	40.742	50.0255	50.026
619.240	23.22	-1.7	21.516	33.726	50.0255	50.026
619.250	28.63	-1.704	26.927	39.137	50.0255	50.026
619.260	27.77	-1.71	26.060	38.270	50.0255	50.026
619.270	29.79	-1.727	28.060	40.270	50.0255	50.026
619.280	31.43	-1.722	29.709	41.919	50.0255	50.026
619.290	28.62	-1.752	26.872	39.082	50.0255	50.026
619.300	28.78	-1.759	27.024	39.234	50.0255	50.026
619.310	30.94	-1.753	29.189	41.399	50.0255	50.026
619.320	28.96	-1.763	27.194	39.404	50.0255	50.026
619.330	28.68	-1.776	26.900	39.110	50.0255	50.026
619.340	28.70	-1.787	26.911	39.121	50.0255	50.026
619.350	30.21	-1.799	28.410	40.620	50.0255	50.026
619.360	25.54	-1.808	23.732	35.942	50.0255	50.026
619.370	28.76	-1.812	26.944	39.154	50.0255	50.026
619.380	27.97	-1.835	26.131	38.341	50.0255	50.026

619.390	27.97	-1.84	26.128	38.338	50.0255	50.026
619.400	26.51	-1.839	24.666	36.876	50.0255	50.026
619.410	31.54	-1.854	29.684	41.894	50.0255	50.026
619.420	29.33	-1.876	27.458	39.668	50.0255	50.026
619.430	28.31	-1.895	26.417	38.627	50.0255	50.026
619.440	26.04	-1.898	24.139	36.349	50.0255	50.026
619.450	28.09	-1.913	26.176	38.386	50.0255	50.026
619.460	27.83	-1.904	25.927	38.137	50.0255	50.026
619.470	26.89	-1.925	24.964	37.174	50.0255	50.026
619.480	29.03	-1.948	27.081	39.291	50.0255	50.026
619.490	31.80	-1.967	29.832	42.042	50.0255	50.026
619.500	25.94	-1.968	23.973	36.183	50.0255	50.026
619.510	29.76	-1.978	27.786	39.996	50.0255	50.026
619.520	28.27	-1.994	26.274	38.484	50.0255	50.026
619.530	29.81	-2.025	27.784	39.994	50.0255	50.026
619.540	28.64	-2.051	26.590	38.800	50.0255	50.026
619.550	29.00	-2.052	26.946	39.156	50.0255	50.026
619.560	26.15	-2.049	24.103	36.313	50.0255	50.026
619.570	28.55	-2.081	26.464	38.674	50.0255	50.026
619.580	26.76	-2.085	24.676	36.886	50.0255	50.026
619.590	24.21	-2.1	22.107	34.317	50.0255	50.026
619.600	29.64	-2.099	27.538	39.748	50.0255	50.026
619.610	29.84	-2.105	27.738	39.948	50.0255	50.026
619.620	26.13	-2.144	23.983	36.193	50.0255	50.026
619.630	22.70	-2.154	20.550	32.760	50.0255	50.026
619.640	26.45	-2.174	24.272	36.482	50.0255	50.026
619.650	26.40	-2.207	24.196	36.406	50.0255	50.026
619.660	26.39	-2.205	24.182	36.392	50.0255	50.026
619.670	23.48	-2.234	21.245	33.455	50.0255	50.026
619.680	27.63	-2.26	25.371	37.581	50.0255	50.026
619.690	27.58	-2.286	25.296	37.506	50.0255	50.026
619.700	22.41	-2.312	20.093	32.303	50.0255	50.026
619.710	29.07	-2.313	26.755	38.965	50.0255	50.026
619.720	25.47	-2.35	23.122	35.332	50.0255	50.026
619.730	25.30	-2.374	22.921	35.131	50.0255	50.026
619.740	21.67	-2.385	19.281	31.491	50.0255	50.026
619.750	24.70	-2.42	22.284	34.494	50.0255	50.026
619.760	23.88	-2.459	21.418	33.628	50.0255	50.026
619.770	23.81	-2.448	21.359	33.569	50.0255	50.026
619.780	23.48	-2.471	21.008	33.218	50.0255	50.026
619.790	22.67	-2.499	20.167	32.377	50.0255	50.026
619.800	22.16	-2.532	19.628	31.838	50.0255	50.026
619.810	20.79	-2.584	18.203	30.413	50.0255	50.026
619.820	22.64	-2.621	20.016	32.226	50.0255	50.026
619.830	21.77	-2.627	19.144	31.354	50.0255	50.026
619.840	24.55	-2.656	21.898	34.108	50.0255	50.026

619.850	21.49	-2.701	18.786	30.996	50.0255	50.026
619.860	15.96	-2.735	13.221	25.431	50.0255	50.026
619.870	15.04	-2.769	12.274	24.484	50.0255	50.026
619.880	13.36	-2.818	10.537	22.747	50.0255	50.026
619.890	16.55	-2.889	13.656	25.866	50.0255	50.026
619.900	12.79	-2.902	9.886	22.096	50.0255	50.026
619.910	14.07	-2.925	11.147	23.357	50.0255	50.026
619.920	16.13	-2.992	13.141	25.351	50.0255	50.026
619.930	10.29	-3.051	7.240	19.450	50.0255	50.026
619.940	11.50	-3.109	8.395	20.605	50.0255	50.026
619.950	7.44	-3.173	4.267	16.477	50.0255	50.026
619.960	3.30	-3.228	0.074	12.284	50.0255	50.026
619.970	1.05	-3.291	-2.243	9.967	50.0255	50.026
619.980	-5.43	-3.366	-8.800	3.410	50.0255	50.026
619.990	-5.80	-3.439	-9.241	2.969	50.0255	50.026
Upper Band Edge						
620.000	-9.54	-3.51	-13.047	-0.837	50.0255	3.025501
620.010	-10.79	-3.597	-14.388	-2.178	4.025501	3.025501
620.020	-10.31	-3.671	-13.984	-1.774	4.025501	3.025501
620.030	-12.49	-3.752	-16.244	-4.034	4.025501	3.025501
620.040	-10.38	-3.86	-14.244	-2.034	4.025501	3.025501
620.050	-13.53	-3.953	-17.482	-5.272	4.025501	3.025501
620.060	-11.61	-4.062	-15.667	-3.457	4.025501	3.025501
620.070	-13.53	-4.194	-17.720	-5.510	4.025501	3.025501
620.080	-11.74	-4.326	-16.070	-3.860	4.025501	3.025501
620.090	-11.66	-4.45	-16.113	-3.903	4.025501	3.025501
620.100	-8.29	-4.598	-12.890	-0.680	4.025501	3.025501
620.110	-9.89	-4.735	-14.625	-2.415	4.025501	3.025501
620.120	-10.52	-4.928	-15.448	-3.238	4.025501	3.025501
620.130	-9.36	-5.115	-14.474	-2.264	4.025501	3.025501
620.140	-10.88	-5.3	-16.183	-3.973	4.025501	3.025501
620.150	-10.39	-5.477	-15.871	-3.661	4.025501	3.025501
620.160	-13.54	-5.676	-19.216	-7.006	4.025501	3.025501
620.170	-11.30	-5.9	-17.198	-4.988	4.025501	3.025501
620.180	-11.76	-6.151	-17.911	-5.701	4.025501	3.025501
620.190	-13.04	-6.417	-19.461	-7.251	4.025501	3.025501
620.200	-10.01	-6.719	-16.733	-4.523	4.025501	3.025501
620.210	-12.43	-6.992	-19.423	-7.213	4.025501	3.025501
620.220	-9.86	-7.296	-17.160	-4.950	4.025501	3.025501
620.230	-12.73	-7.603	-20.336	-8.126	4.025501	3.025501
620.240	-9.46	-7.94	-17.399	-5.189	4.025501	3.025501
620.250	-11.37	-8.288	-19.659	-7.449	3.982098	3.026
620.260	-13.07	-8.682	-21.751	-9.541	3.978557	3.026
620.270	-10.32	-9.052	-19.368	-7.158	3.974876	3.026
620.280	-9.81	-9.464	-19.274	-7.064	3.971057	3.026
620.290	-11.22	-9.879	-21.099	-8.889	3.967098	3.026

620.300	-10.50	-10.325	-20.824	-8.614	3.963001	3.026
620.310	-11.70	-10.783	-22.486	-10.276	3.958765	3.026
620.320	-8.25	-11.234	-19.487	-7.277	3.95439	3.026
620.330	-12.35	-11.748	-24.102	-11.892	3.949876	3.026
620.340	-13.93	-12.236	-26.166	-13.956	3.945223	3.026
620.350	-13.69	-12.737	-26.427	-14.217	3.940432	3.026
620.360	-9.85	-13.262	-23.109	-10.899	3.935501	3.026
620.370	-11.10	-13.819	-24.917	-12.707	3.930432	3.026
620.380	-12.02	-14.353	-26.370	-14.160	3.925223	3.026
620.390	-9.59	-14.839	-24.432	-12.222	3.919876	3.026
620.400	-12.96	-15.388	-28.345	-16.135	3.91439	3.026
620.410	-10.64	-15.935	-26.575	-14.365	3.908765	3.026
620.420	-9.68	-16.439	-26.121	-13.911	3.903001	3.026
620.430	-9.78	-16.973	-26.754	-14.544	3.897098	3.026
620.440	-9.16	-17.445	-26.607	-14.397	3.891057	3.026
620.450	-10.91	-17.922	-28.828	-16.618	3.884876	3.026
620.460	-10.42	-18.341	-28.765	-16.555	3.878557	3.026
620.470	-10.60	-18.728	-29.325	-17.115	3.872098	3.026
620.480	-13.30	-19.059	-32.361	-20.151	3.865501	3.026
620.490	-13.60	-19.35	-32.946	-20.736	3.858765	3.026
620.500	-9.33	-19.585	-28.911	-16.701	3.85189	3.026
620.510	-10.79	-19.774	-30.561	-18.351	3.844876	2.911
620.520	-7.63	-19.88	-27.510	-15.300	3.837723	2.796
620.530	-11.71	-19.951	-31.661	-19.451	3.830432	2.681
620.540	-15.79	-19.997	-35.785	-23.575	3.823001	2.566
620.550	-7.63	-19.972	-27.606	-15.396	3.815432	2.451
620.560	-9.27	-19.911	-29.181	-16.971	3.807723	2.336
620.570	-10.28	-19.849	-30.128	-17.918	3.799876	2.221
620.580	-14.88	-19.764	-34.641	-22.431	3.79189	2.106
620.590	-8.39	-19.643	-28.037	-15.827	3.783765	1.991
620.600	-8.96	-19.543	-28.501	-16.291	3.775501	1.876
620.610	-10.69	-19.403	-30.091	-17.881	3.767098	1.761
620.620	-10.79	-19.274	-30.063	-17.853	3.758557	1.646
620.630	-11.20	-19.161	-30.364	-18.154	3.749876	1.531
620.640	-12.41	-19.03	-31.436	-19.226	3.741057	1.416
620.650	-13.24	-18.908	-32.148	-19.938	3.732098	1.301
620.660	-13.55	-18.784	-32.335	-20.125	3.723001	1.186
620.670	-12.77	-18.659	-31.428	-19.218	3.713765	1.071
620.680	-9.59	-18.562	-28.153	-15.943	3.70439	0.956
620.690	-10.02	-18.479	-28.501	-16.291	3.694876	0.841
620.700	-10.21	-18.368	-28.581	-16.371	3.685223	0.726
620.710	-10.65	-18.273	-28.919	-16.709	3.675432	0.611
620.720	-10.27	-18.201	-28.475	-16.265	3.665501	0.496
620.730	-12.67	-18.092	-30.758	-18.548	3.655432	0.381
620.740	-13.70	-18.035	-31.734	-19.524	3.645223	0.266
620.750	-13.74	-17.963	-31.707	-19.497	3.634876	0.151

620.760	-9.10	-17.886	-26.984	-14.774	3.62439	0.036
620.770	-12.45	-17.83	-30.284	-18.074	3.613765	-0.079
620.780	-10.21	-17.777	-27.991	-15.781	3.603001	-0.194
620.790	-12.91	-17.733	-30.646	-18.436	3.592098	-0.309
620.800	-16.72	-17.691	-34.408	-22.198	3.581057	-0.424
620.810	-11.12	-17.63	-28.752	-16.542	3.569876	-0.539
620.820	-12.04	-17.607	-29.647	-17.437	3.558557	-0.654
620.830	-6.10	-17.589	-23.690	-11.480	3.547098	-0.769
620.840	-7.27	-17.569	-24.841	-12.631	3.535501	-0.884
620.850	-10.68	-17.54	-28.224	-16.014	3.523765	-0.999
620.860	-8.79	-17.497	-26.290	-14.080	3.51189	-1.114
620.870	-9.91	-17.494	-27.402	-15.192	3.499876	-1.229
620.880	-11.36	-17.49	-28.850	-16.640	3.487723	-1.344
620.890	-11.87	-17.504	-29.373	-17.163	3.475432	-1.459
620.900	-10.78	-17.491	-28.272	-16.062	3.463001	-1.574
620.910	-12.87	-17.496	-30.364	-18.154	3.450432	-1.689
620.920	-11.52	-17.478	-28.994	-16.784	3.437723	-1.804
620.930	-12.58	-17.465	-30.045	-17.835	3.424876	-1.919
620.940	-10.73	-17.479	-28.212	-16.002	3.41189	-2.034
620.950	-13.77	-17.513	-31.286	-19.076	3.398765	-2.149
620.960	-8.09	-17.527	-25.612	-13.402	3.385501	-2.264
620.970	-9.15	-17.538	-26.685	-14.475	3.372098	-2.379
620.980	-11.38	-17.547	-28.922	-16.712	3.358557	-2.494
620.990	-11.11	-17.58	-28.689	-16.479	3.344876	-2.609
621.000	-10.27	-17.577	-27.849	-15.639	3.331057	-2.724
621.010	-10.84	-17.605	-28.447	-16.237	3.317098	-2.839
621.020	-13.24	-17.63	-30.865	-18.655	3.303001	-2.954
621.030	-14.49	-17.678	-32.168	-19.958	3.288765	-3.069
621.040	-12.96	-17.694	-30.656	-18.446	3.27439	-3.184
621.050	-11.32	-17.714	-29.032	-16.822	3.259876	-3.299
621.060	-10.73	-17.739	-28.471	-16.261	3.245223	-3.414
621.070	-12.25	-17.772	-30.017	-17.807	3.230432	-3.529
621.080	-13.26	-17.822	-31.079	-18.869	3.215501	-3.644
621.090	-15.00	-17.846	-32.842	-20.632	3.200432	-3.759
621.100	-11.81	-17.885	-29.693	-17.483	3.185223	-3.874
621.110	-12.00	-17.911	-29.911	-17.701	3.169876	-3.989
621.120	-10.13	-17.93	-28.055	-15.845	3.15439	-4.104
621.130	-13.10	-17.993	-31.093	-18.883	3.138765	-4.219
621.140	-11.76	-18.044	-29.803	-17.593	3.123001	-4.334
621.150	-13.69	-18.09	-31.776	-19.566	3.107098	-4.449
621.160	-14.67	-18.112	-32.785	-20.575	3.091057	-4.564
621.170	-10.85	-18.17	-29.024	-16.814	3.074876	-4.679
621.180	-10.44	-18.225	-28.666	-16.456	3.058557	-4.794
621.190	-13.16	-18.256	-31.416	-19.206	3.042098	-4.909
621.200	-16.23	-18.294	-34.524	-22.314	3.025501	-5.024
621.210	-9.79	-18.339	-28.126	-15.916	3.008765	-5.139

621.220	-7.70	-18.391	-26.092	-13.882	2.99189	-5.254
621.230	-12.97	-18.434	-31.408	-19.198	2.974876	-5.369
621.240	-9.10	-18.499	-27.601	-15.391	2.957723	-5.484
621.250	-9.27	-18.524	-27.793	-15.583	2.940432	-5.599
621.260	-10.84	-18.597	-29.438	-17.228	2.923001	-5.714
621.270	-12.87	-18.641	-31.513	-19.303	2.905432	-5.829
621.280	-10.60	-18.694	-29.292	-17.082	2.887723	-5.944
621.290	-14.99	-18.745	-33.733	-21.523	2.869876	-6.059
621.300	-9.37	-18.798	-28.171	-15.961	2.85189	-6.174
621.310	-13.20	-18.835	-32.031	-19.821	2.833765	-6.289
621.320	-11.01	-18.909	-29.922	-17.712	2.815501	-6.404
621.330	-12.64	-18.971	-31.613	-19.403	2.797098	-6.519
621.340	-9.90	-19.035	-28.932	-16.722	2.778557	-6.634
621.350	-13.87	-19.084	-32.957	-20.747	2.759876	-6.749
621.360	-11.45	-19.131	-30.579	-18.369	2.741057	-6.864
621.370	-14.35	-19.191	-33.537	-21.327	2.722098	-6.979
621.380	-12.49	-19.218	-31.707	-19.497	2.703001	-7.094
621.390	-14.09	-19.3	-33.390	-21.180	2.683765	-7.209
621.400	-12.58	-19.341	-31.916	-19.706	2.66439	-7.324
621.410	-15.96	-19.401	-35.356	-23.146	2.644876	-7.439
621.420	-13.10	-19.477	-32.577	-20.367	2.625223	-7.554
621.430	-14.44	-19.552	-33.991	-21.781	2.605432	-7.669
621.440	-11.50	-19.6	-31.101	-18.891	2.585501	-7.784
621.450	-12.77	-19.666	-32.432	-20.222	2.565432	-7.899
621.460	-11.00	-19.696	-30.700	-18.490	2.545223	-8.014
621.470	-12.39	-19.776	-32.161	-19.951	2.524876	-8.129
621.480	-12.48	-19.822	-32.301	-20.091	2.50439	-8.244
621.490	-13.24	-19.884	-33.121	-20.911	2.483765	-8.359
621.500	-11.70	-19.941	-31.642	-19.432	2.463001	-8.474
621.510	-8.09	-20.013	-28.098	-15.888	2.442098	-8.589
621.520	-12.78	-20.072	-32.854	-20.644	2.421057	-8.704
621.530	-14.77	-20.145	-34.919	-22.709	2.399876	-8.819
621.540	-10.45	-20.217	-30.668	-18.458	2.378557	-8.934
621.550	-12.30	-20.275	-32.573	-20.363	2.357098	-9.049
621.560	-11.62	-20.335	-31.951	-19.741	2.335501	-9.164
621.570	-12.83	-20.384	-33.210	-21.000	2.313765	-9.279
621.580	-10.54	-20.435	-30.979	-18.769	2.29189	-9.394
621.590	-10.54	-20.487	-31.024	-18.814	2.269876	-9.509
621.600	-12.59	-20.549	-33.139	-20.929	2.247723	-9.624
621.610	-10.86	-20.639	-31.499	-19.289	2.225432	-9.739
621.620	-12.40	-20.703	-33.101	-20.891	2.203001	-9.854
621.630	-12.41	-20.738	-33.148	-20.938	2.180432	-9.969
621.640	-12.16	-20.813	-32.971	-20.761	2.157723	-10.084
621.650	-12.58	-20.883	-33.467	-21.257	2.134876	-10.199
621.660	-10.96	-20.922	-31.878	-19.668	2.11189	-10.314
621.670	-12.96	-21.007	-33.963	-21.753	2.088765	-10.429

621.680	-13.80	-21.066	-34.869	-22.659	2.065501	-10.544
621.690	-11.51	-21.162	-32.673	-20.463	2.042098	-10.659
621.700	-13.40	-21.209	-34.611	-22.401	2.018557	-10.774
621.710	-12.39	-21.269	-33.658	-21.448	1.994876	-10.889
621.720	-10.92	-21.324	-32.241	-20.031	1.971057	-11.004
621.730	-14.08	-21.409	-35.488	-23.278	1.947098	-11.119
621.740	-9.82	-21.463	-31.279	-19.069	1.923001	-11.234
621.750	-11.81	-21.553	-33.364	-21.154	1.898765	-11.349
621.760	-10.43	-21.598	-32.024	-19.814	1.87439	-11.464
621.770	-12.78	-21.661	-34.441	-22.231	1.849876	-11.579
621.780	-10.99	-21.705	-32.698	-20.488	1.825223	-11.694
621.790	-13.02	-21.787	-34.805	-22.595	1.800432	-11.809
621.800	-13.50	-21.853	-35.354	-23.144	1.775501	-11.924
621.810	-13.42	-21.902	-35.318	-23.108	1.750432	-12.039
621.820	-14.67	-21.972	-36.641	-24.431	1.725223	-12.154
621.830	-12.02	-22.034	-34.053	-21.843	1.699876	-12.269
621.840	-14.68	-22.095	-36.776	-24.566	1.67439	-12.384
621.850	-12.92	-22.166	-35.088	-22.878	1.648765	-12.499
621.860	-11.11	-22.25	-33.362	-21.152	1.623001	-12.614
621.870	-12.00	-22.3	-34.298	-22.088	1.597098	-12.729
621.880	-16.26	-22.358	-38.620	-26.410	1.571057	-12.844
621.890	-11.46	-22.462	-33.923	-21.713	1.544876	-12.959
621.900	-12.73	-22.518	-35.250	-23.040	1.518557	-13.074
621.910	-12.46	-22.566	-35.023	-22.813	1.492098	-13.189
621.920	-12.44	-22.627	-35.070	-22.860	1.465501	-13.304
621.930	-11.67	-22.69	-34.358	-22.148	1.438765	-13.419
621.940	-13.10	-22.779	-35.876	-23.666	1.41189	-13.534
621.950	-11.02	-22.826	-33.842	-21.632	1.384876	-13.649
621.960	-10.56	-22.871	-33.426	-21.216	1.357723	-13.764
621.970	-9.69	-22.931	-32.622	-20.412	1.330432	-13.879
621.980	-11.21	-23.017	-34.230	-22.020	1.303001	-13.994
621.990	-15.05	-23.072	-38.124	-25.914	1.275432	-14.109
622.000	-11.85	-23.149	-35.001	-22.791	1.247723	-14.224
622.010	-14.17	-23.211	-37.382	-25.172	1.219876	-14.339
622.020	-13.80	-23.272	-37.070	-24.860	1.19189	-14.454
622.030	-15.09	-23.332	-38.424	-26.214	1.163765	-14.569
622.040	-10.32	-23.39	-33.714	-21.504	1.135501	-14.684
622.050	-9.80	-23.44	-33.243	-21.033	1.107098	-14.799
622.060	-12.97	-23.539	-36.512	-24.302	1.078557	-14.914
622.070	-13.51	-23.574	-37.085	-24.875	1.049876	-15.029
622.080	-9.97	-23.647	-33.620	-21.410	1.021057	-15.144
622.090	-17.01	-23.73	-40.742	-28.532	0.992098	-15.259
622.100	-12.79	-23.776	-36.562	-24.352	0.963001	-15.374
622.110	-10.28	-23.834	-34.115	-21.905	0.933765	-15.489
622.120	-13.40	-23.903	-37.298	-25.088	0.90439	-15.604
622.130	-16.14	-23.976	-40.112	-27.902	0.874876	-15.719

622.140	-14.84	-24.06	-38.897	-26.687	0.845223	-15.834
622.150	-14.30	-24.11	-38.406	-26.196	0.815432	-15.949
622.160	-11.72	-24.169	-35.893	-23.683	0.785501	-16.064
622.170	-14.06	-24.217	-38.272	-26.062	0.755432	-16.179
622.180	-13.26	-24.313	-37.568	-25.358	0.725223	-16.294
622.190	-12.36	-24.368	-36.728	-24.518	0.694876	-16.409
622.200	-11.22	-24.42	-35.643	-23.433	0.66439	-16.524
622.210	-12.54	-24.479	-37.014	-24.804	0.633765	-16.639
622.220	-12.00	-24.556	-36.552	-24.342	0.603001	-16.754
622.230	-12.63	-24.608	-37.241	-25.031	0.572098	-16.869
622.240	-11.27	-24.687	-35.960	-23.750	0.541057	-16.984
622.250	-11.90	-24.746	-36.643	-24.433	0.509876	-17.099
622.260	-10.03	-24.826	-34.855	-22.645	0.478557	-17.214
622.270	-13.60	-24.902	-38.504	-26.294	0.447098	-17.329
622.280	-11.90	-24.943	-36.839	-24.629	0.415501	-17.444
622.290	-14.55	-24.982	-39.530	-27.320	0.383765	-17.559
622.300	-12.15	-25.067	-37.217	-25.007	0.35189	-17.674
622.310	-10.23	-25.148	-35.375	-23.165	0.319876	-17.789
622.320	-10.30	-25.202	-35.501	-23.291	0.287723	-17.904
622.330	-11.91	-25.252	-37.166	-24.956	0.255432	-18.019
622.340	-12.88	-25.29	-38.169	-25.959	0.223001	-18.134
622.350	-10.76	-25.397	-36.153	-23.943	0.190432	-18.249
622.360	-14.60	-25.449	-40.050	-27.840	0.157723	-18.364
622.370	-14.29	-25.523	-39.813	-27.603	0.124876	-18.479
622.380	-12.78	-25.573	-38.354	-26.144	0.09189	-18.594
622.390	-13.75	-25.649	-39.400	-27.190	0.058765	-18.709
622.400	-15.33	-25.706	-41.036	-28.826	0.025501	-18.824
622.410	-12.67	-25.751	-38.425	-26.215	-0.0079	-18.939
622.420	-13.64	-25.829	-39.473	-27.263	-0.04144	-19.054
622.430	-11.97	-25.885	-37.852	-25.642	-0.07512	-19.169
622.440	-12.22	-25.965	-38.186	-25.976	-0.10894	-19.284
622.450	-11.96	-26.002	-37.966	-25.756	-0.1429	-19.399
622.460	-14.77	-26.093	-40.864	-28.654	-0.177	-19.514
622.470	-11.10	-26.138	-37.242	-25.032	-0.21123	-19.629
622.480	-13.64	-26.202	-39.844	-27.634	-0.24561	-19.744
622.490	-14.61	-26.268	-40.882	-28.672	-0.28012	-19.859
622.500	-10.80	-26.294	-37.096	-24.886	-0.31478	-19.974
622.510	-13.78	-26.409	-40.193	-27.983	-0.34957	-20.089
622.520	-8.75	-26.446	-35.195	-22.985	-0.3845	-20.204
622.530	-13.26	-26.52	-39.776	-27.566	-0.41957	-20.319
622.540	-13.42	-26.55	-39.966	-27.756	-0.45478	-20.434
622.550	-16.66	-26.603	-43.261	-31.051	-0.49012	-20.549
622.560	-10.01	-26.698	-36.711	-24.501	-0.52561	-20.664
622.570	-14.63	-26.763	-41.391	-29.181	-0.56123	-20.779
622.580	-12.72	-26.827	-39.546	-27.336	-0.597	-20.894
622.590	-10.18	-26.892	-37.076	-24.866	-0.6329	-21.009

622.600	-12.70	-26.945	-39.640	-27.430	-0.66894	-21.124
622.610	-12.31	-26.997	-39.309	-27.099	-0.70512	-21.239
622.620	-12.60	-27.063	-39.666	-27.456	-0.74144	-21.354
622.630	-13.31	-27.133	-40.447	-28.237	-0.7779	-21.469
622.640	-14.09	-27.188	-41.275	-29.065	-0.8145	-21.584
622.650	-12.41	-27.231	-39.641	-27.431	-0.85123	-21.699
622.660	-12.26	-27.311	-39.567	-27.357	-0.88811	-21.814
622.670	-9.47	-27.367	-36.838	-24.628	-0.92512	-21.929
622.680	-12.93	-27.428	-40.356	-28.146	-0.96228	-22.044
622.690	-13.90	-27.491	-41.386	-29.176	-0.99957	-22.159
622.700	-14.34	-27.53	-41.870	-29.660	-1.037	-22.274
622.710	-12.63	-27.614	-40.247	-28.037	-1.07457	-22.389
622.720	-14.25	-27.686	-41.936	-29.726	-1.11228	-22.504
622.730	-11.72	-27.724	-39.444	-27.234	-1.15012	-22.619
622.740	-9.59	-27.758	-37.347	-25.137	-1.18811	-22.734
622.750	-10.65	-27.819	-38.471	-26.261	-1.22623	-22.849
622.760	-12.17	-27.905	-40.071	-27.861	-1.2645	-22.964
622.770	-12.63	-27.95	-40.578	-28.368	-1.3029	-23.079
622.780	-13.51	-28.038	-41.547	-29.337	-1.34144	-23.194
622.790	-12.15	-28.083	-40.228	-28.018	-1.38012	-23.309
622.800	-13.27	-28.146	-41.413	-29.203	-1.41894	-23.424
622.810	-11.66	-28.208	-39.865	-27.655	-1.4579	-23.539
622.820	-15.90	-28.253	-44.155	-31.945	-1.497	-23.654
622.830	-13.74	-28.324	-42.066	-29.856	-1.53623	-23.769
622.840	-14.33	-28.382	-42.710	-30.500	-1.57561	-23.884
622.850	-14.13	-28.446	-42.576	-30.366	-1.61512	-23.999
622.860	-14.35	-28.494	-42.845	-30.635	-1.65478	-24.114
622.870	-14.24	-28.543	-42.780	-30.570	-1.69457	-24.229
622.880	-12.70	-28.62	-41.319	-29.109	-1.7345	-24.344
622.890	-13.34	-28.678	-42.019	-29.809	-1.77457	-24.459
622.900	-10.66	-28.758	-39.418	-27.208	-1.81478	-24.574
622.910	-10.75	-28.778	-39.527	-27.317	-1.85512	-24.689
622.920	-12.07	-28.835	-40.900	-28.690	-1.89561	-24.804
622.930	-13.34	-28.893	-42.237	-30.027	-1.93623	-24.919
622.940	-12.44	-28.97	-41.408	-29.198	-1.977	-25.034
622.950	-14.67	-29.024	-43.696	-31.486	-2.0179	-25.149
622.960	-12.22	-29.099	-41.321	-29.111	-2.05894	-25.264
622.970	-16.87	-29.176	-46.049	-33.839	-2.10012	-25.379
622.980	-13.31	-29.232	-42.545	-30.335	-2.14144	-25.494
622.990	-13.39	-29.277	-42.671	-30.461	-2.1829	-25.609
623.000	-14.55	-29.319	-43.869	-31.659	-2.2245	-25.9745
623.010	-11.06	-29.395	-40.451	-28.241	-2.26623	-25.9745
623.020	-12.06	-29.452	-41.511	-29.301	-2.30811	-25.9745
623.030	-11.76	-29.517	-41.274	-29.064	-2.35012	-25.9745
623.040	-15.85	-29.555	-45.407	-33.197	-2.39228	-25.9745
623.050	-16.09	-29.594	-45.680	-33.470	-2.43457	-25.9745

623.060	-12.49	-29.661	-42.155	-29.945	-2.477	-25.9745
623.070	-12.92	-29.747	-42.664	-30.454	-2.51957	-25.9745
623.080	-13.69	-29.799	-43.492	-31.282	-2.56228	-25.9745
623.090	-13.91	-29.855	-43.763	-31.553	-2.60512	-25.9745
623.100	-17.77	-29.91	-47.682	-35.472	-2.64811	-25.9745
623.110	-16.07	-29.975	-46.046	-33.836	-2.69123	-25.9745
623.120	-13.64	-30.025	-43.667	-31.457	-2.7345	-25.9745
623.130	-15.61	-30.091	-45.701	-33.491	-2.7779	-25.9745
623.140	-15.29	-30.133	-45.420	-33.210	-2.82144	-25.9745
623.150	-12.94	-30.173	-43.110	-30.900	-2.86512	-25.9745
623.160	-16.94	-30.238	-47.179	-34.969	-2.90894	-25.9745
623.170	-16.92	-30.318	-47.239	-35.029	-2.9529	-25.9745
623.180	-12.83	-30.351	-43.177	-30.967	-2.997	-25.9745
623.190	-15.72	-30.393	-46.116	-33.906	-3.04123	-25.9745
623.200	-11.37	-30.444	-41.810	-29.600	-3.08561	-25.9745
623.210	-14.83	-30.528	-45.360	-33.150	-3.13012	-25.9745
623.220	-10.23	-30.582	-40.810	-28.600	-3.17478	-25.9745
623.230	-11.27	-30.635	-41.904	-29.694	-3.21957	-25.9745
623.240	-16.99	-30.683	-47.671	-35.461	-3.2645	-25.9745
623.250	-14.23	-30.74	-44.973	-32.763	-3.30957	-25.9745
623.260	-14.77	-30.826	-45.594	-33.384	-3.35478	-25.9745
623.270	-15.62	-30.896	-46.511	-34.301	-3.40012	-25.9745
623.280	-15.05	-30.905	-45.954	-33.744	-3.44561	-25.9745
623.290	-14.20	-30.958	-45.154	-32.944	-3.49123	-25.9745
623.300	-14.66	-31.033	-45.694	-33.484	-3.537	-25.9745
623.310	-12.83	-31.096	-43.930	-31.720	-3.5829	-25.9745
623.320	-18.23	-31.17	-49.398	-37.188	-3.62894	-25.9745
623.330	-16.60	-31.216	-47.820	-35.610	-3.67512	-25.9745
623.340	-12.82	-31.247	-44.069	-31.859	-3.72144	-25.9745
623.350	-13.42	-31.305	-44.726	-32.516	-3.7679	-25.9745
623.360	-14.56	-31.412	-45.973	-33.763	-3.8145	-25.9745
623.370	-17.69	-31.426	-49.112	-36.902	-3.86123	-25.9745
623.380	-13.27	-31.468	-44.737	-32.527	-3.90811	-25.9745
623.390	-14.39	-31.528	-45.915	-33.705	-3.95512	-25.9745
623.400	-15.81	-31.593	-47.401	-35.191	-4.00228	-25.9745
623.410	-11.32	-31.645	-42.964	-30.754	-4.04957	-25.9745
623.420	-16.24	-31.703	-47.942	-35.732	-4.097	-25.9745
623.430	-13.32	-31.756	-45.074	-32.864	-4.14457	-25.9745
623.440	-17.15	-31.8	-48.952	-36.742	-4.19228	-25.9745
623.450	-13.61	-31.864	-45.471	-33.261	-4.24012	-25.9745
623.460	-15.63	-31.932	-47.565	-35.355	-4.28811	-25.9745
623.470	-16.35	-31.976	-48.327	-36.117	-4.33623	-25.9745
623.480	-15.00	-32.029	-47.032	-34.822	-4.3845	-25.9745
623.490	-13.22	-32.088	-45.312	-33.102	-4.4329	-25.9745
623.500	-17.08	-32.163	-49.243	-37.033	-4.48144	-25.9745
623.510	-16.13	-32.205	-48.338	-36.128	-4.53012	-25.9745

623.520	-18.49	-32.236	-50.730	-38.520	-4.57894	-25.9745
623.530	-15.38	-32.303	-47.686	-35.476	-4.6279	-25.9745
623.540	-15.41	-32.341	-47.746	-35.536	-4.677	-25.9745
623.550	-13.80	-32.403	-46.201	-33.991	-4.72623	-25.9745
623.560	-12.89	-32.461	-45.347	-33.137	-4.77561	-25.9745
623.570	-17.62	-32.521	-50.144	-37.934	-4.82512	-25.9745
623.580	-16.89	-32.56	-49.449	-37.239	-4.87478	-25.9745
623.590	-14.84	-32.623	-47.466	-35.256	-4.92457	-25.9745
623.600	-13.81	-32.675	-46.486	-34.276	-4.9745	-25.9745
623.610	-15.34	-32.722	-48.066	-35.856	-5.02457	-25.9745
623.620	-17.69	-32.795	-50.484	-38.274	-5.07478	-25.9745
623.630	-17.36	-32.841	-50.200	-37.990	-5.12512	-25.9745
623.640	-12.98	-32.908	-45.883	-33.673	-5.17561	-25.9745
623.650	-15.55	-32.962	-48.515	-36.305	-5.22623	-25.9745
623.660	-13.64	-32.991	-46.633	-34.423	-5.277	-25.9745
623.670	-14.24	-33.067	-47.311	-35.101	-5.3279	-25.9745
623.680	-17.74	-33.098	-50.838	-38.628	-5.37894	-25.9745
623.690	-17.62	-33.15	-50.768	-38.558	-5.43012	-25.9745
623.700	-11.63	-33.2	-44.830	-32.620	-5.48144	-25.9745
623.710	-14.69	-33.249	-47.936	-35.726	-5.5329	-25.9745
623.720	-14.11	-33.292	-47.398	-35.188	-5.5845	-25.9745
623.730	-14.61	-33.355	-47.961	-35.751	-5.63623	-25.9745
623.740	-15.21	-33.419	-48.631	-36.421	-5.68811	-25.9745
623.750	-13.75	-33.467	-47.213	-35.003	-5.74012	-25.9745
623.760	-16.08	-33.549	-49.628	-37.418	-5.79228	-25.9745
623.770	-18.22	-33.579	-51.798	-39.588	-5.84457	-25.9745
623.780	-15.87	-33.615	-49.481	-37.271	-5.897	-25.9745
623.790	-15.38	-33.697	-49.081	-36.871	-5.94957	-25.9745
623.800	-15.05	-33.743	-48.789	-36.579	-6.00228	-25.9745
623.810	-15.92	-33.779	-49.702	-37.492	-6.05512	-25.9745
623.820	-17.56	-33.811	-51.372	-39.162	-6.10811	-25.9745
623.830	-16.13	-33.891	-50.025	-37.815	-6.16123	-25.9745
623.840	-16.52	-33.955	-50.474	-38.264	-6.2145	-25.9745
623.850	-17.73	-33.989	-51.717	-39.507	-6.2679	-25.9745
623.860	-15.40	-34.04	-49.436	-37.226	-6.32144	-25.9745
623.870	-15.57	-34.08	-49.649	-37.439	-6.37512	-25.9745
623.880	-15.11	-34.13	-49.239	-37.029	-6.42894	-25.9745
623.890	-14.89	-34.212	-49.105	-36.895	-6.4829	-25.9745
623.900	-15.50	-34.24	-49.744	-37.534	-6.537	-25.9745
623.910	-12.89	-34.314	-47.203	-34.993	-6.59123	-25.9745
623.920	-17.46	-34.356	-51.811	-39.601	-6.64561	-25.9745
623.930	-15.28	-34.428	-49.705	-37.495	-6.70012	-25.9745
623.940	-13.92	-34.455	-48.371	-36.161	-6.75478	-25.9745
623.950	-14.55	-34.51	-49.063	-36.853	-6.80957	-25.9745
623.960	-15.85	-34.553	-50.398	-38.188	-6.8645	-25.9745
623.970	-14.83	-34.611	-49.445	-37.235	-6.91957	-25.9745

623.980	-14.63	-34.664	-49.291	-37.081	-6.97478	-25.9745
623.990	-16.61	-34.702	-51.316	-39.106	-7.03012	-25.9745
624.000	-14.20	-34.766	-48.962	-36.752	-7.08561	-25.9745
624.010	-16.08	-34.806	-50.888	-38.678	-7.14123	-25.9745
624.020	-12.94	-34.856	-47.797	-35.587	-7.197	-25.9745
624.030	-15.85	-34.912	-50.766	-38.556	-7.2529	-25.9745
624.040	-15.73	-34.948	-50.675	-38.465	-7.30894	-25.9745
624.050	-15.13	-35.027	-50.152	-37.942	-7.36512	-25.9745
624.060	-15.74	-35.055	-50.794	-38.584	-7.42144	-25.9745
624.070	-12.84	-35.118	-47.955	-35.745	-7.4779	-25.9745
624.080	-16.40	-35.172	-51.574	-39.364	-7.5345	-25.9745
624.090	-17.35	-35.216	-52.563	-40.353	-7.59123	-25.9745
624.100	-14.74	-35.28	-50.024	-37.814	-7.64811	-25.9745
624.110	-14.99	-35.301	-50.295	-38.085	-7.70512	-25.9745
624.120	-16.76	-35.362	-52.124	-39.914	-7.76228	-25.9745
624.130	-16.62	-35.426	-52.046	-39.836	-7.81957	-25.9745
624.140	-16.24	-35.464	-51.708	-39.498	-7.877	-25.9745
624.150	-15.75	-35.521	-51.269	-39.059	-7.93457	-25.9745
624.160	-16.78	-35.555	-52.330	-40.120	-7.99228	-25.9745
624.170	-17.68	-35.616	-53.300	-41.090	-8.05012	-25.9745
624.180	-16.78	-35.671	-52.448	-40.238	-8.10811	-25.9745
624.190	-15.46	-35.711	-51.169	-38.959	-8.16623	-25.9745
624.200	-15.16	-35.741	-50.903	-38.693	-8.2245	-25.9745
624.210	-18.11	-35.793	-53.901	-41.691	-8.2829	-25.9745
624.220	-18.13	-35.855	-53.982	-41.772	-8.34144	-25.9745
624.230	-17.48	-35.914	-53.391	-41.181	-8.40012	-25.9745
624.240	-18.06	-35.955	-54.018	-41.808	-8.45894	-25.9745
624.250	-17.63	-36.003	-53.635	-41.425	-8.5179	-25.9745
624.260	-18.27	-36.05	-54.319	-42.109	-8.577	-25.9745
624.270	-17.62	-36.081	-53.703	-41.493	-8.63623	-25.9745
624.280	-20.07	-36.132	-56.198	-43.988	-8.69561	-25.9745
624.290	-16.69	-36.173	-52.861	-40.651	-8.75512	-25.9745
624.300	-15.07	-36.246	-51.314	-39.104	-8.81478	-25.9745
624.310	-18.01	-36.303	-54.311	-42.101	-8.87457	-25.9745
624.320	-18.56	-36.356	-54.912	-42.702	-8.9345	-25.9745
624.330	-17.05	-36.382	-53.435	-41.225	-8.99457	-25.9745
624.340	-15.51	-36.447	-51.960	-39.750	-9.05478	-25.9745
624.350	-18.39	-36.485	-54.871	-42.661	-9.11512	-25.9745
624.360	-18.29	-36.542	-54.827	-42.617	-9.17561	-25.9745
624.370	-16.03	-36.585	-52.611	-40.401	-9.23623	-25.9745
624.380	-18.80	-36.627	-55.429	-43.219	-9.297	-25.9745
624.390	-15.74	-36.723	-52.459	-40.249	-9.3579	-25.9745
624.400	-16.84	-36.735	-53.573	-41.363	-9.41894	-25.9745
624.410	-16.58	-36.793	-53.375	-41.165	-9.48012	-25.9745
624.420	-16.73	-36.815	-53.542	-41.332	-9.54144	-25.9745
624.430	-20.57	-36.878	-57.447	-45.237	-9.6029	-25.9745

624.440	-14.14	-36.925	-51.068	-38.858	-9.6645	-25.9745
624.450	-15.33	-36.952	-52.278	-40.068	-9.72623	-25.9745
624.460	-15.27	-37.06	-52.333	-40.123	-9.78811	-25.9745
624.470	-18.92	-37.078	-55.993	-43.783	-9.85012	-25.9745
624.480	-18.92	-37.096	-56.012	-43.802	-9.91228	-25.9745
624.490	-15.38	-37.174	-52.557	-40.347	-9.97457	-25.9745
624.500	-19.09	-37.211	-56.296	-44.086	-10.037	-25.9745
624.510	-18.46	-37.274	-55.732	-43.522	-10.0996	-25.9745
624.520	-19.76	-37.306	-57.066	-44.856	-10.1623	-25.9745
624.530	-15.99	-37.369	-53.354	-41.144	-10.2251	-25.9745
624.540	-18.33	-37.396	-55.727	-43.517	-10.2881	-25.9745
624.550	-22.01	-37.422	-59.436	-47.226	-10.3512	-25.9745
624.560	-19.99	-37.49	-57.480	-45.270	-10.4145	-25.9745
624.570	-19.71	-37.554	-57.262	-45.052	-10.4779	-25.9745
624.580	-16.78	-37.591	-54.374	-42.164	-10.5414	-25.9745
624.590	-16.93	-37.674	-54.601	-42.391	-10.6051	-25.9745
624.600	-17.63	-37.689	-55.318	-43.108	-10.6689	-25.9745
624.610	-18.50	-37.732	-56.230	-44.020	-10.7329	-25.9745
624.620	-15.27	-37.774	-53.043	-40.833	-10.797	-25.9745
624.630	-18.23	-37.822	-56.047	-43.837	-10.8612	-25.9745
624.640	-21.57	-37.878	-59.450	-47.240	-10.9256	-25.9745
624.650	-18.22	-37.909	-56.129	-43.919	-10.9901	-25.9745
624.660	-15.39	-37.97	-53.360	-41.150	-11.0548	-25.9745
624.670	-18.41	-37.972	-56.377	-44.167	-11.1196	-25.9745
624.680	-19.84	-38.012	-57.856	-45.646	-11.1845	-25.9745
624.690	-19.36	-38.097	-57.459	-45.249	-11.2496	-25.9745
624.700	-22.18	-38.144	-60.328	-48.118	-11.3148	-25.9745
624.710	-18.18	-38.203	-56.384	-44.174	-11.3801	-25.9745
624.720	-18.45	-38.236	-56.681	-44.471	-11.4456	-25.9745
624.730	-17.15	-38.295	-55.444	-43.234	-11.5112	-25.9745
624.740	-19.04	-38.303	-57.345	-45.135	-11.577	-25.9745
624.750	-20.94	-38.367	-59.308	-47.098	-11.6429	-25.9745
624.760	-21.31	-38.404	-59.710	-47.500	-11.7089	-25.9745
624.770	-19.05	-38.463	-57.516	-45.306	-11.7751	-25.9745
624.780	-16.93	-38.499	-55.431	-43.221	-11.8414	-25.9745
624.790	-18.99	-38.593	-57.585	-45.375	-11.9079	-25.9745
624.800	-19.27	-38.619	-57.892	-45.682	-11.9745	-25.9745
624.810	-16.61	-38.658	-55.268	-43.058	-12.0412	-25.9745
624.820	-19.64	-38.698	-58.341	-46.131	-12.1081	-25.9745
624.830	-19.34	-38.745	-58.087	-45.877	-12.1751	-25.9745
624.840	-18.44	-38.799	-57.236	-45.026	-12.2423	-25.9745
624.850	-16.82	-38.824	-55.648	-43.438	-12.3096	-25.9745
624.860	-18.81	-38.859	-57.671	-45.461	-12.377	-25.9745
624.870	-19.91	-38.949	-58.858	-46.648	-12.4446	-25.9745
624.880	-17.51	-38.978	-56.488	-44.278	-12.5123	-25.9745
624.890	-18.52	-39.041	-57.557	-45.347	-12.5801	-25.9745

624.900	-18.93	-39.02	-57.949	-45.739	-12.6481	-25.9745
624.910	-21.67	-39.105	-60.770	-48.560	-12.7162	-25.9745
624.920	-17.69	-39.147	-56.836	-44.626	-12.7845	-25.9745
624.930	-17.96	-39.204	-57.159	-44.949	-12.8529	-25.9745
624.940	-17.40	-39.231	-56.626	-44.416	-12.9214	-25.9745
624.950	-21.51	-39.287	-60.796	-48.586	-12.9901	-25.9745
624.960	-18.58	-39.324	-57.903	-45.693	-13.0589	-25.9745
624.970	-21.40	-39.373	-60.777	-48.567	-13.1279	-25.9745
624.980	-16.25	-39.391	-55.642	-43.432	-13.197	-25.9745
624.990	-18.74	-39.489	-58.232	-46.022	-13.2662	-25.9745
625.000	-20.21	-39.68	-59.885	-47.675	-13.3356	-25.9745
625.010	-19.85	-39.544	-59.398	-47.188	-13.4051	-25.9745
625.020	-21.33	-39.573	-60.905	-48.695	-13.4748	-25.9745
625.030	-21.91	-39.626	-61.537	-49.327	-13.5446	-25.9745
625.040	-20.74	-39.674	-60.417	-48.207	-13.6145	-25.9745
625.050	-18.74	-39.751	-58.492	-46.282	-13.6846	-25.9745
625.060	-17.95	-39.833	-57.782	-45.572	-13.7548	-25.9745
625.070	-12.43	-39.795	-52.222	-40.012	-13.8251	-25.9745
625.080	-19.92	-39.877	-59.801	-47.591	-13.8956	-25.9745
625.090	-19.21	-39.923	-59.137	-46.927	-13.9662	-25.9745
625.100	-21.05	-39.934	-60.982	-48.772	-14.037	-25.9745
625.110	-18.87	-39.974	-58.844	-46.634	-14.1079	-25.9745
625.120	-20.65	-40.041	-60.693	-48.483	-14.1789	-25.9745
625.130	-21.59	-40.067	-61.654	-49.444	-14.2501	-25.9745
625.140	-17.00	-40.112	-57.108	-44.898	-14.3214	-25.9745
625.150	-17.68	-40.16	-57.835	-45.625	-14.3929	-25.9745
625.160	-19.98	-40.234	-60.215	-48.005	-14.4645	-25.9745
625.170	-19.05	-40.294	-59.345	-47.135	-14.5362	-25.9745
625.180	-22.64	-40.31	-62.946	-50.736	-14.6081	-25.9745
625.190	-21.76	-40.325	-62.085	-49.875	-14.6801	-25.9745
625.200	-18.39	-40.407	-58.795	-46.585	-14.7523	-25.9745
625.210	-18.87	-40.398	-59.269	-47.059	-14.8246	-25.9745
625.220	-19.27	-40.472	-59.739	-47.529	-14.897	-25.9745
625.230	-18.75	-40.5	-59.254	-47.044	-14.9696	-25.9745
625.240	-20.77	-40.53	-61.297	-49.087	-15.0423	-25.9745
625.250	-21.40	-40.623	-62.025	-49.815	-15.1151	-25.9745
625.260	-22.62	-40.651	-63.273	-51.063	-15.1881	-25.9745
625.270	-23.19	-40.705	-63.897	-51.687	-15.2612	-25.9745
625.280	-18.52	-40.734	-59.253	-47.043	-15.3345	-25.9745
625.290	-17.95	-40.78	-58.727	-46.517	-15.4079	-25.9745
625.300	-20.29	-40.857	-61.142	-48.932	-15.4814	-25.9745
625.310	-22.27	-40.838	-63.107	-50.897	-15.5551	-25.9745
625.320	-20.58	-40.893	-61.469	-49.259	-15.6289	-25.9745
625.330	-19.48	-40.932	-60.414	-48.204	-15.7029	-25.9745
625.340	-19.21	-40.958	-60.166	-47.956	-15.777	-25.9745
625.350	-20.94	-41.047	-61.986	-49.776	-15.8512	-25.9745

625.360	-18.24	-41.06	-59.298	-47.088	-15.9256	-25.9745
625.370	-22.91	-41.13	-64.042	-51.832	-16.0001	-25.9745
625.380	-20.36	-41.135	-61.496	-49.286	-16.0748	-25.9745
625.390	-19.26	-41.23	-60.494	-48.284	-16.1496	-25.9745
625.400	-19.04	-41.274	-60.311	-48.101	-16.2245	-25.9745
625.410	-19.98	-41.3	-61.280	-49.070	-16.2996	-25.9745
625.420	-19.21	-41.35	-60.560	-48.350	-16.3748	-25.9745
625.430	-23.52	-41.339	-64.856	-52.646	-16.4501	-25.9745
625.440	-21.92	-41.441	-63.365	-51.155	-16.5256	-25.9745
625.450	-21.31	-41.444	-62.752	-50.542	-16.6012	-25.9745
625.460	-22.09	-41.502	-63.593	-51.383	-16.677	-25.9745
625.470	-23.08	-41.514	-64.596	-52.386	-16.7529	-25.9745
625.480	-20.27	-41.585	-61.855	-49.645	-16.8289	-25.9745
625.490	-21.76	-41.628	-63.392	-51.182	-16.9051	-25.9745
625.500	-23.08	-41.649	-64.731	-52.521	-16.9814	-25.9745
625.510	-22.29	-41.669	-63.958	-51.748	-17.0579	-25.9745
625.520	-17.91	-41.71	-59.624	-47.414	-17.1345	-25.9745
625.530	-21.49	-41.773	-63.259	-51.049	-17.2112	-25.9745
625.540	-18.75	-41.822	-60.568	-48.358	-17.2881	-25.9745
625.550	-18.82	-41.843	-60.663	-48.453	-17.3651	-25.9745
625.560	-17.31	-41.912	-59.220	-47.010	-17.4423	-25.9745
625.570	-17.13	-41.968	-59.097	-46.887	-17.5196	-25.9745
625.580	-21.49	-42.001	-63.487	-51.277	-17.597	-25.9745
625.590	-19.50	-42.021	-61.523	-49.313	-17.6746	-25.9745
625.600	-17.89	-42.058	-59.952	-47.742	-17.7523	-25.9745
625.610	-21.75	-42.124	-63.878	-51.668	-17.8301	-25.9745
625.620	-22.64	-42.167	-64.808	-52.598	-17.9081	-25.9745
625.630	-18.88	-42.203	-61.079	-48.869	-17.9862	-25.9745
625.640	-21.77	-42.278	-64.046	-51.836	-18.0645	-25.9745
625.650	-20.12	-42.305	-62.428	-50.218	-18.1429	-25.9745
625.660	-20.66	-42.326	-62.984	-50.774	-18.2214	-25.9745
625.670	-19.78	-42.396	-62.172	-49.962	-18.3001	-25.9745
625.680	-20.74	-42.393	-63.135	-50.925	-18.3789	-25.9745
625.690	-21.59	-42.431	-64.025	-51.815	-18.4579	-25.9745
625.700	-22.81	-42.485	-65.298	-53.088	-18.537	-25.9745
625.710	-21.75	-42.486	-64.232	-52.022	-18.6162	-25.9745
625.720	-18.69	-42.568	-61.262	-49.052	-18.6956	-25.9745
625.730	-19.92	-42.63	-62.549	-50.339	-18.7751	-25.9745
625.740	-20.14	-42.66	-62.796	-50.586	-18.8548	-25.9745
625.750	-17.58	-42.707	-60.290	-48.080	-18.9346	-25.9745
625.760	-20.46	-42.738	-63.197	-50.987	-19.0145	-25.9745
625.770	-18.45	-42.809	-61.256	-49.046	-19.0946	-25.9745
625.780	-19.15	-42.82	-61.969	-49.759	-19.1748	-25.9745
625.790	-19.10	-42.913	-62.017	-49.807	-19.2551	-25.9745
625.800	-22.82	-42.928	-65.748	-53.538	-19.3356	-25.9745
625.810	-21.66	-42.919	-64.581	-52.371	-19.4162	-25.9745

625.820	-21.59	-42.976	-64.570	-52.360	-19.497	-25.9745
625.830	-20.29	-42.994	-63.283	-51.073	-19.5779	-25.9745
625.840	-22.92	-43.035	-65.956	-53.746	-19.6589	-25.9745
625.850	-22.44	-43.084	-65.528	-53.318	-19.7401	-25.9745
625.860	-22.90	-43.111	-66.010	-53.800	-19.8214	-25.9745
625.870	-21.75	-43.16	-64.908	-52.698	-19.9029	-25.9745
625.880	-17.29	-43.255	-60.545	-48.335	-19.9845	-25.9745
625.890	-21.74	-43.265	-65.004	-52.794	-20.0662	-25.9745
625.900	-24.62	-43.309	-67.932	-55.722	-20.1481	-25.9745
625.910	-23.65	-43.312	-66.957	-54.747	-20.2301	-25.9745
625.920	-21.67	-43.352	-65.025	-52.815	-20.3123	-25.9745
625.930	-19.79	-43.428	-63.213	-51.003	-20.3946	-25.9745
625.940	-18.35	-43.395	-61.746	-49.536	-20.477	-25.9745
625.950	-21.39	-43.473	-64.867	-52.657	-20.5596	-25.9745
625.960	-24.30	-43.587	-67.889	-55.679	-20.6423	-25.9745
625.970	-23.27	-43.559	-66.832	-54.622	-20.7251	-25.9745
625.980	-18.46	-43.579	-62.035	-49.825	-20.8081	-25.9745
625.990	-20.12	-43.686	-63.806	-51.596	-20.8912	-25.9745
626.000	-22.28	-43.68	-65.962	-53.752	-20.9745	-25.9745
626.010	-21.04	-43.704	-64.747	-52.537	-20.9745	-25.9745
626.020	-23.92	-43.772	-67.688	-55.478	-20.9745	-25.9745
626.030	-19.50	-43.8	-63.300	-51.090	-20.9745	-25.9745
626.040	-21.05	-43.863	-64.917	-52.707	-20.9745	-25.9745
626.050	-23.01	-43.885	-66.893	-54.683	-20.9745	-25.9745
626.060	-20.75	-43.925	-64.676	-52.466	-20.9745	-25.9745
626.070	-23.40	-43.984	-67.384	-55.174	-20.9745	-25.9745
626.080	-22.54	-44.026	-66.561	-54.351	-20.9745	-25.9745
626.090	-20.05	-44.059	-64.107	-51.897	-20.9745	-25.9745
626.100	-20.07	-44.097	-64.171	-51.961	-20.9745	-25.9745
626.110	-22.26	-44.108	-66.368	-54.158	-20.9745	-25.9745
626.120	-22.03	-44.197	-66.227	-54.017	-20.9745	-25.9745
626.130	-19.78	-44.244	-64.025	-51.815	-20.9745	-25.9745
626.140	-22.19	-44.22	-66.409	-54.199	-20.9745	-25.9745
626.150	-19.56	-44.285	-63.845	-51.635	-20.9745	-25.9745
626.160	-21.77	-44.253	-66.018	-53.808	-20.9745	-25.9745
626.170	-20.39	-44.36	-64.746	-52.536	-20.9745	-25.9745
626.180	-19.92	-44.413	-64.328	-52.118	-20.9745	-25.9745
626.190	-21.77	-44.403	-66.168	-53.958	-20.9745	-25.9745
626.200	-23.10	-44.457	-67.560	-55.350	-20.9745	-25.9745
626.210	-22.18	-44.506	-66.681	-54.471	-20.9745	-25.9745
626.220	-23.26	-44.576	-67.834	-55.624	-20.9745	-25.9745
626.230	-23.09	-44.591	-67.685	-55.475	-20.9745	-25.9745
626.240	-19.79	-44.664	-64.450	-52.240	-20.9745	-25.9745
626.250	-19.50	-44.7	-64.197	-51.987	-20.9745	-25.9745
626.260	-22.18	-44.721	-66.899	-54.689	-20.9745	-25.9745
626.270	-18.00	-44.753	-62.753	-50.543	-20.9745	-25.9745

626.280	-20.94	-44.763	-65.705	-53.495	-20.9745	-25.9745
626.290	-24.15	-44.824	-68.976	-56.766	-20.9745	-25.9745
626.300	-23.28	-44.834	-68.116	-55.906	-20.9745	-25.9745
626.310	-22.91	-44.913	-67.824	-55.614	-20.9745	-25.9745
626.320	-18.82	-44.975	-63.798	-51.588	-20.9745	-25.9745
626.330	-21.93	-44.973	-66.906	-54.696	-20.9745	-25.9745
626.340	-18.69	-45.031	-63.723	-51.513	-20.9745	-25.9745
626.350	-22.10	-45.037	-67.138	-54.928	-20.9745	-25.9745
626.360	-23.08	-45.06	-68.141	-55.931	-20.9745	-25.9745
626.370	-19.93	-45.074	-65.005	-52.795	-20.9745	-25.9745
626.380	-21.51	-45.143	-66.654	-54.444	-20.9745	-25.9745
626.390	-22.63	-45.2	-67.833	-55.623	-20.9745	-25.9745
626.400	-20.20	-45.271	-65.469	-53.259	-20.9745	-25.9745
626.410	-20.66	-45.323	-65.986	-53.776	-20.9745	-25.9745
626.420	-22.29	-45.295	-67.584	-55.374	-20.9745	-25.9745
626.430	-23.90	-45.375	-69.272	-57.062	-20.9745	-25.9745
626.440	-21.32	-45.419	-66.739	-54.529	-20.9745	-25.9745
626.450	-23.77	-45.418	-69.191	-56.981	-20.9745	-25.9745
626.460	-21.50	-45.457	-66.957	-54.747	-20.9745	-25.9745
626.470	-20.87	-45.497	-66.364	-54.154	-20.9745	-25.9745
626.480	-22.62	-45.561	-68.184	-55.974	-20.9745	-25.9745
626.490	-21.34	-45.549	-66.885	-54.675	-20.9745	-25.9745
626.500	-22.00	-45.628	-67.632	-55.422	-20.9745	-25.9745
626.510	-23.17	-45.623	-68.797	-56.587	-20.9745	-25.9745
626.520	-21.68	-45.692	-67.373	-55.163	-20.9745	-25.9745
626.530	-20.56	-45.716	-66.279	-54.069	-20.9745	-25.9745
626.540	-22.37	-45.722	-68.091	-55.881	-20.9745	-25.9745
626.550	-22.11	-45.79	-67.899	-55.689	-20.9745	-25.9745
626.560	-22.36	-45.823	-68.187	-55.977	-20.9745	-25.9745
626.570	-20.65	-45.865	-66.515	-54.305	-20.9745	-25.9745
626.580	-24.05	-45.888	-69.934	-57.724	-20.9745	-25.9745
626.590	-19.34	-45.938	-65.281	-53.071	-20.9745	-25.9745
626.600	-21.67	-46.008	-67.682	-55.472	-20.9745	-25.9745
626.610	-24.45	-46.011	-70.462	-58.252	-20.9745	-25.9745
626.620	-21.51	-46.047	-67.556	-55.346	-20.9745	-25.9745
626.630	-17.80	-46.121	-63.916	-51.706	-20.9745	-25.9745
626.640	-22.47	-46.166	-68.633	-56.423	-20.9745	-25.9745
626.650	-22.36	-46.166	-68.526	-56.316	-20.9745	-25.9745
626.660	-22.83	-46.204	-69.029	-56.819	-20.9745	-25.9745
626.670	-24.03	-46.245	-70.275	-58.065	-20.9745	-25.9745
626.680	-22.47	-46.298	-68.766	-56.556	-20.9745	-25.9745
626.690	-20.13	-46.328	-66.456	-54.246	-20.9745	-25.9745
626.700	-18.40	-46.298	-64.695	-52.485	-20.9745	-25.9745
626.710	-24.17	-46.4	-70.572	-58.362	-20.9745	-25.9745
626.720	-22.47	-46.405	-68.877	-56.667	-20.9745	-25.9745
626.730	-22.27	-46.399	-68.668	-56.458	-20.9745	-25.9745

626.740	-24.45	-46.489	-70.935	-58.725	-20.9745	-25.9745
626.750	-22.55	-46.561	-69.114	-56.904	-20.9745	-25.9745
626.760	-22.26	-46.584	-68.847	-56.637	-20.9745	-25.9745
626.770	-23.78	-46.634	-70.413	-58.203	-20.9745	-25.9745
626.780	-23.78	-46.678	-70.459	-58.249	-20.9745	-25.9745
626.790	-18.70	-46.657	-65.352	-53.142	-20.9745	-25.9745
626.800	-23.79	-46.691	-70.482	-58.272	-20.9745	-25.9745
626.810	-18.77	-46.795	-65.560	-53.350	-20.9745	-25.9745
626.820	-20.12	-46.834	-66.951	-54.741	-20.9745	-25.9745
626.830	-22.20	-46.828	-69.023	-56.813	-20.9745	-25.9745
626.840	-23.39	-46.896	-70.290	-58.080	-20.9745	-25.9745
626.850	-22.72	-46.876	-69.600	-57.390	-20.9745	-25.9745
626.860	-20.76	-46.916	-67.672	-55.462	-20.9745	-25.9745
626.870	-18.64	-47.005	-65.646	-53.436	-20.9745	-25.9745
626.880	-22.01	-47.018	-69.027	-56.817	-20.9745	-25.9745
626.890	-21.93	-47.01	-68.935	-56.725	-20.9745	-25.9745
626.900	-17.95	-47.076	-65.027	-52.817	-20.9745	-25.9745
626.910	-22.83	-47.118	-69.952	-57.742	-20.9745	-25.9745
626.920	-22.18	-47.131	-69.307	-57.097	-20.9745	-25.9745
626.930	-20.94	-47.218	-68.155	-55.945	-20.9745	-25.9745
626.940	-18.23	-47.238	-65.463	-53.253	-20.9745	-25.9745
626.950	-21.85	-47.292	-69.141	-56.931	-20.9745	-25.9745
626.960	-22.29	-47.301	-69.590	-57.380	-20.9745	-25.9745
626.970	-18.64	-47.306	-65.945	-53.735	-20.9745	-25.9745
626.980	-20.27	-47.403	-67.676	-55.466	-20.9745	-25.9745
626.990	-23.51	-47.355	-70.867	-58.657	-20.9745	-25.9745
627.000	-20.38	-47.376	-67.756	-55.546	-20.9745	-25.9745
627.010	-20.55	-47.504	-68.054	-55.844	-20.9745	-25.9745
627.020	-22.45	-47.566	-70.012	-57.802	-20.9745	-25.9745
627.030	-21.59	-47.497	-69.082	-56.872	-20.9745	-25.9745
627.040	-24.79	-47.607	-72.401	-60.191	-20.9745	-25.9745
627.050	-22.11	-47.624	-69.730	-57.520	-20.9745	-25.9745
627.060	-19.93	-47.604	-67.533	-55.323	-20.9745	-25.9745
627.070	-17.47	-47.745	-65.217	-53.007	-20.9745	-25.9745
627.080	-18.58	-47.737	-66.318	-54.108	-20.9745	-25.9745
627.090	-24.15	-47.806	-71.957	-59.747	-20.9745	-25.9745
627.100	-20.87	-47.79	-68.658	-56.448	-20.9745	-25.9745
627.110	-24.45	-47.879	-72.326	-60.116	-20.9745	-25.9745
627.120	-23.28	-47.912	-71.191	-58.981	-20.9745	-25.9745
627.130	-22.38	-47.914	-70.293	-58.083	-20.9745	-25.9745
627.140	-21.58	-47.917	-69.494	-57.284	-20.9745	-25.9745
627.150	-21.25	-47.955	-69.206	-56.996	-20.9745	-25.9745
627.160	-24.47	-47.983	-72.452	-60.242	-20.9745	-25.9745
627.170	-24.18	-48.01	-72.185	-59.975	-20.9745	-25.9745
627.180	-24.48	-48.047	-72.525	-60.315	-20.9745	-25.9745
627.190	-22.45	-48.103	-70.551	-58.341	-20.9745	-25.9745

627.200	-20.05	-48.185	-68.237	-56.027	-20.9745	-25.9745
627.210	-22.12	-48.087	-70.202	-57.992	-20.9745	-25.9745
627.220	-23.40	-48.227	-71.624	-59.414	-20.9745	-25.9745
627.230	-21.60	-48.206	-69.805	-57.595	-20.9745	-25.9745
627.240	-22.11	-48.264	-70.370	-58.160	-20.9745	-25.9745
627.250	-23.65	-48.213	-71.858	-59.648	-20.9745	-25.9745
627.260	-24.48	-48.429	-72.905	-60.695	-20.9745	-25.9745
627.270	-22.83	-48.389	-71.220	-59.010	-20.9745	-25.9745
627.280	-24.05	-48.416	-72.465	-60.255	-20.9745	-25.9745
627.290	-22.56	-48.468	-71.025	-58.815	-20.9745	-25.9745
627.300	-23.65	-48.553	-72.205	-59.995	-20.9745	-25.9745
627.310	-19.63	-48.574	-68.201	-55.991	-20.9745	-25.9745
627.320	-25.47	-48.597	-74.070	-61.860	-20.9745	-25.9745
627.330	-21.94	-48.624	-70.565	-58.355	-20.9745	-25.9745
627.340	-19.24	-48.556	-67.791	-55.581	-20.9745	-25.9745
627.350	-22.29	-48.597	-70.887	-58.677	-20.9745	-25.9745
627.360	-19.58	-48.707	-68.288	-56.078	-20.9745	-25.9745
627.370	-22.01	-48.691	-70.705	-58.495	-20.9745	-25.9745
627.380	-22.72	-48.744	-71.462	-59.252	-20.9745	-25.9745
627.390	-20.00	-48.815	-68.819	-56.609	-20.9745	-25.9745
627.400	-25.67	-48.866	-74.539	-62.329	-20.9745	-25.9745
627.410	-23.17	-48.785	-71.953	-59.743	-20.9745	-25.9745
627.420	-23.66	-48.874	-72.533	-60.323	-20.9745	-25.9745
627.430	-23.54	-48.986	-72.530	-60.320	-20.9745	-25.9745
627.440	-22.54	-48.957	-71.498	-59.288	-20.9745	-25.9745
627.450	-21.60	-49.103	-70.702	-58.492	-20.9745	-25.9745
627.460	-19.63	-49.023	-68.652	-56.442	-20.9745	-25.9745
627.470	-21.25	-49.14	-70.386	-58.176	-20.9745	-25.9745
627.480	-22.99	-49.117	-72.109	-59.899	-20.9745	-25.9745
627.490	-24.47	-49.131	-73.602	-61.392	-20.9745	-25.9745
627.500	-22.90	-49.188	-72.088	-59.878	-20.9745	-25.9745
627.510	-20.14	-49.235	-69.373	-57.163	-20.9745	-25.9745
627.520	-20.65	-49.25	-69.903	-57.693	-20.9745	-25.9745
627.530	-24.48	-49.234	-73.712	-61.502	-20.9745	-25.9745
627.540	-21.68	-49.351	-71.035	-58.825	-20.9745	-25.9745
627.550	-23.77	-49.374	-73.146	-60.936	-20.9745	-25.9745
627.560	-21.67	-49.398	-71.069	-58.859	-20.9745	-25.9745
627.570	-21.33	-49.395	-70.721	-58.511	-20.9745	-25.9745
627.580	-22.37	-49.449	-71.816	-59.606	-20.9745	-25.9745
627.590	-22.11	-49.51	-71.618	-59.408	-20.9745	-25.9745
627.600	-20.00	-49.515	-69.519	-57.309	-20.9745	-25.9745
627.610	-19.92	-49.53	-69.451	-57.241	-20.9745	-25.9745
627.620	-24.17	-49.592	-73.758	-61.548	-20.9745	-25.9745
627.630	-21.93	-49.586	-71.512	-59.302	-20.9745	-25.9745
627.640	-22.28	-49.689	-71.971	-59.761	-20.9745	-25.9745
627.650	-19.78	-49.648	-69.428	-57.218	-20.9745	-25.9745

627.660	-20.47	-49.786	-70.251	-58.041	-20.9745	-25.9745
627.670	-19.92	-49.783	-69.706	-57.496	-20.9745	-25.9745
627.680	-23.40	-49.806	-73.204	-60.994	-20.9745	-25.9745
627.690	-24.98	-49.833	-74.815	-62.605	-20.9745	-25.9745
627.700	-23.10	-49.867	-72.969	-60.759	-20.9745	-25.9745
627.710	-22.64	-49.848	-72.487	-60.277	-20.9745	-25.9745
627.720	-22.82	-49.934	-72.753	-60.543	-20.9745	-25.9745
627.730	-22.81	-49.962	-72.774	-60.564	-20.9745	-25.9745
627.740	-22.09	-50.021	-72.113	-59.903	-20.9745	-25.9745
627.750	-24.97	-50.026	-74.995	-62.785	-20.9745	-25.9745
627.760	-20.07	-50.098	-70.164	-57.954	-20.9745	-25.9745
627.770	-22.91	-50.072	-72.979	-60.769	-20.9745	-25.9745
627.780	-21.15	-50.084	-71.237	-59.027	-20.9745	-25.9745
627.790	-20.58	-50.202	-70.778	-58.568	-20.9745	-25.9745
627.800	-24.98	-50.206	-75.188	-62.978	-20.9745	-25.9745
627.810	-25.15	-50.267	-75.419	-63.209	-20.9745	-25.9745
627.820	-22.99	-50.265	-73.257	-61.047	-20.9745	-25.9745
627.830	-25.15	-50.293	-75.438	-63.228	-20.9745	-25.9745
627.840	-22.65	-50.281	-72.931	-60.721	-20.9745	-25.9745
627.850	-21.25	-50.43	-71.676	-59.466	-20.9745	-25.9745
627.860	-21.41	-50.475	-71.882	-59.672	-20.9745	-25.9745
627.870	-21.77	-50.414	-72.184	-59.974	-20.9745	-25.9745
627.880	-22.46	-50.421	-72.881	-60.671	-20.9745	-25.9745
627.890	-23.40	-50.48	-73.882	-61.672	-20.9745	-25.9745
627.900	-22.91	-50.532	-73.440	-61.230	-20.9745	-25.9745
627.910	-22.64	-50.573	-73.215	-61.005	-20.9745	-25.9745
627.920	-22.99	-50.64	-73.628	-61.418	-20.9745	-25.9745
627.930	-21.94	-50.627	-72.562	-60.352	-20.9745	-25.9745
627.940	-21.75	-50.655	-72.402	-60.192	-20.9745	-25.9745
627.950	-24.82	-50.713	-75.528	-63.318	-20.9745	-25.9745
627.960	-24.28	-50.623	-74.901	-62.691	-20.9745	-25.9745
627.970	-23.40	-50.696	-74.095	-61.885	-20.9745	-25.9745
627.980	-24.64	-50.776	-75.411	-63.201	-20.9745	-25.9745
627.990	-22.03	-50.787	-72.813	-60.603	-20.9745	-25.9745
628.000	-22.47	-50.72	-73.190	-60.980	-20.9745	-25.9745
628.010	-21.15	-50.81	-71.955	-59.745	-20.9745	-25.9745
628.020	-24.29	-50.918	-75.207	-62.997	-20.9745	-25.9745
628.030	-27.24	-50.886	-78.128	-65.918	-20.9745	-25.9745
628.040	-21.32	-51.064	-72.380	-60.170	-20.9745	-25.9745
628.050	-19.27	-50.983	-70.257	-58.047	-20.9745	-25.9745
628.060	-22.38	-51	-73.379	-61.169	-20.9745	-25.9745
628.070	-22.19	-51.135	-73.326	-61.116	-20.9745	-25.9745
628.080	-21.85	-51.135	-72.981	-60.771	-20.9745	-25.9745
628.090	-22.12	-51.099	-73.215	-61.005	-20.9745	-25.9745
628.100	-23.41	-51.102	-74.514	-62.304	-20.9745	-25.9745
628.110	-24.18	-51.271	-75.449	-63.239	-20.9745	-25.9745

628.120	-19.99	-51.299	-71.287	-59.077	-20.9745	-25.9745
628.130	-19.63	-51.232	-70.864	-58.654	-20.9745	-25.9745
628.140	-22.02	-51.277	-73.292	-61.082	-20.9745	-25.9745
628.150	-22.54	-51.251	-73.791	-61.581	-20.9745	-25.9745
628.160	-22.37	-51.406	-73.779	-61.569	-20.9745	-25.9745
628.170	-22.19	-51.389	-73.577	-61.367	-20.9745	-25.9745
628.180	-21.58	-51.354	-72.929	-60.719	-20.9745	-25.9745
628.190	-23.67	-51.388	-75.054	-62.844	-20.9745	-25.9745
628.200	-22.65	-51.477	-74.128	-61.918	-20.9745	-25.9745
628.210	-22.72	-51.503	-74.224	-62.014	-20.9745	-25.9745
628.220	-24.17	-51.512	-75.682	-63.472	-20.9745	-25.9745
628.230	-23.53	-51.531	-75.060	-62.850	-20.9745	-25.9745
628.240	-24.98	-51.589	-76.570	-64.360	-20.9745	-25.9745
628.250	-23.09	-51.698	-74.790	-62.580	-20.9745	-25.9745
628.260	-20.84	-51.714	-72.552	-60.342	-20.9745	-25.9745
628.270	-21.15	-51.714	-72.868	-60.658	-20.9745	-25.9745
628.280	-23.80	-51.696	-75.493	-63.283	-20.9745	-25.9745
628.290	-23.27	-51.735	-75.009	-62.799	-20.9745	-25.9745
628.300	-22.27	-51.72	-73.985	-61.775	-20.9745	-25.9745
628.310	-22.36	-51.84	-74.200	-61.990	-20.9745	-25.9745
628.320	-23.11	-51.938	-75.046	-62.836	-20.9745	-25.9745
628.330	-24.63	-51.852	-76.478	-64.268	-20.9745	-25.9745
628.340	-21.94	-51.894	-73.834	-61.624	-20.9745	-25.9745
628.350	-23.67	-52.013	-75.682	-63.472	-20.9745	-25.9745
628.360	-23.93	-51.948	-75.874	-63.664	-20.9745	-25.9745
628.370	-24.79	-52.066	-76.859	-64.649	-20.9745	-25.9745
628.380	-21.40	-52.012	-73.409	-61.199	-20.9745	-25.9745
628.390	-23.90	-52.078	-75.980	-63.770	-20.9745	-25.9745
628.400	-24.31	-52.216	-76.523	-64.313	-20.9745	-25.9745
628.410	-25.14	-52.149	-77.284	-65.074	-20.9745	-25.9745
628.420	-25.67	-52.343	-78.011	-65.801	-20.9745	-25.9745
628.430	-24.97	-52.234	-77.204	-64.994	-20.9745	-25.9745
628.440	-22.99	-52.338	-75.327	-63.117	-20.9745	-25.9745
628.450	-23.10	-52.344	-75.445	-63.235	-20.9745	-25.9745
628.460	-26.03	-52.296	-78.321	-66.111	-20.9745	-25.9745
628.470	-24.79	-52.235	-77.024	-64.814	-20.9745	-25.9745
628.480	-21.85	-52.394	-74.242	-62.032	-20.9745	-25.9745
628.490	-23.54	-52.281	-75.823	-63.613	-20.9745	-25.9745
628.500	-22.29	-52.382	-74.671	-62.461	-20.9745	-25.9745
628.510	-24.30	-52.572	-76.875	-64.665	-20.9745	-25.9745
628.520	-27.24	-52.491	-79.735	-67.525	-20.9745	-25.9745
628.530	-25.65	-52.438	-78.092	-65.882	-20.9745	-25.9745
628.540	-24.29	-52.542	-76.827	-64.617	-20.9745	-25.9745
628.550	-25.48	-52.442	-77.918	-65.708	-20.9745	-25.9745
628.560	-24.64	-52.563	-77.198	-64.988	-20.9745	-25.9745
628.570	-24.03	-52.546	-76.574	-64.364	-20.9745	-25.9745

628.580	-24.31	-52.706	-77.011	-64.801	-20.9745	-25.9745
628.590	-24.64	-52.804	-77.444	-65.234	-20.9745	-25.9745
628.600	-23.29	-52.716	-76.003	-63.793	-20.9745	-25.9745
628.610	-25.86	-52.78	-78.635	-66.425	-20.9745	-25.9745
628.620	-24.82	-52.793	-77.608	-65.398	-20.9745	-25.9745
628.630	-26.01	-52.823	-78.828	-66.618	-20.9745	-25.9745
628.640	-23.10	-52.893	-75.996	-63.786	-20.9745	-25.9745
628.650	-21.76	-52.936	-74.693	-62.483	-20.9745	-25.9745
628.660	-22.82	-52.913	-75.735	-63.525	-20.9745	-25.9745
628.670	-25.50	-52.911	-78.414	-66.204	-20.9745	-25.9745
628.680	-23.00	-52.967	-75.962	-63.752	-20.9745	-25.9745
628.690	-22.83	-52.954	-75.783	-63.573	-20.9745	-25.9745
628.700	-24.17	-53.121	-77.291	-65.081	-20.9745	-25.9745
628.710	-24.47	-53.055	-77.521	-65.311	-20.9745	-25.9745
628.720	-23.64	-53.169	-76.813	-64.603	-20.9745	-25.9745
628.730	-23.02	-53.263	-76.280	-64.070	-20.9745	-25.9745
628.740	-20.74	-53.176	-73.919	-61.709	-20.9745	-25.9745
628.750	-22.99	-53.109	-76.100	-63.890	-20.9745	-25.9745
628.760	-23.65	-53.332	-76.978	-64.768	-20.9745	-25.9745
628.770	-23.41	-53.343	-76.753	-64.543	-20.9745	-25.9745
628.780	-24.30	-53.25	-77.548	-65.338	-20.9745	-25.9745
628.790	-22.73	-53.336	-76.069	-63.859	-20.9745	-25.9745
628.800	-22.91	-53.307	-76.212	-64.002	-20.9745	-25.9745
628.810	-23.10	-53.4	-76.504	-64.294	-20.9745	-25.9745
628.820	-24.47	-53.399	-77.870	-65.660	-20.9745	-25.9745
628.830	-23.78	-53.42	-77.202	-64.992	-20.9745	-25.9745
628.840	-23.78	-53.458	-77.236	-65.026	-20.9745	-25.9745
628.850	-24.05	-53.54	-77.594	-65.384	-20.9745	-25.9745
628.860	-22.28	-53.468	-75.749	-63.539	-20.9745	-25.9745
628.870	-22.82	-53.559	-76.380	-64.170	-20.9745	-25.9745
628.880	-23.40	-53.598	-76.998	-64.788	-20.9745	-25.9745
628.890	-25.48	-53.732	-79.211	-67.001	-20.9745	-25.9745
628.900	-23.79	-53.642	-77.429	-65.219	-20.9745	-25.9745
628.910	-26.19	-53.736	-79.927	-67.717	-20.9745	-25.9745
628.920	-19.48	-53.687	-73.171	-60.961	-20.9745	-25.9745
628.930	-23.42	-53.702	-77.117	-64.907	-20.9745	-25.9745
628.940	-22.55	-53.938	-76.488	-64.278	-20.9745	-25.9745
628.950	-24.82	-53.748	-78.564	-66.354	-20.9745	-25.9745
628.960	-24.04	-53.927	-77.963	-65.753	-20.9745	-25.9745
628.970	-25.83	-53.975	-79.809	-67.599	-20.9745	-25.9745
628.980	-23.41	-53.853	-77.266	-65.056	-20.9745	-25.9745
628.990	-22.18	-53.868	-76.046	-63.836	-20.9745	-25.9745
629.000	-22.63	-53.859	-76.489	-64.279	-20.9745	-25.9745
629.010	-23.00	-53.895	-76.896	-64.686	-20.9745	-25.9745
629.020	-21.57	-53.887	-75.459	-63.249	-20.9745	-25.9745
629.030	-22.56	-54.032	-76.591	-64.381	-20.9745	-25.9745

629.040	-23.41	-53.94	-77.348	-65.138	-20.9745	-25.9745
629.050	-23.18	-53.988	-77.165	-64.955	-20.9745	-25.9745
629.060	-23.10	-54.254	-77.349	-65.139	-20.9745	-25.9745
629.070	-24.17	-54.14	-78.308	-66.098	-20.9745	-25.9745
629.080	-24.03	-54.162	-78.193	-65.983	-20.9745	-25.9745
629.090	-23.29	-54.196	-77.486	-65.276	-20.9745	-25.9745
629.100	-26.01	-54.113	-80.123	-67.913	-20.9745	-25.9745
629.110	-22.73	-54.356	-77.089	-64.879	-20.9745	-25.9745
629.120	-23.80	-54.264	-78.064	-65.854	-20.9745	-25.9745
629.130	-24.79	-54.404	-79.196	-66.986	-20.9745	-25.9745
629.140	-23.78	-54.344	-78.124	-65.914	-20.9745	-25.9745
629.150	-25.85	-54.403	-80.257	-68.047	-20.9745	-25.9745
629.160	-23.41	-54.388	-77.794	-65.584	-20.9745	-25.9745
629.170	-24.98	-54.501	-79.478	-67.268	-20.9745	-25.9745
629.180	-25.85	-54.506	-80.351	-68.141	-20.9745	-25.9745
629.190	-24.82	-54.424	-79.240	-67.030	-20.9745	-25.9745
629.200	-24.47	-54.474	-78.948	-66.738	-20.9745	-25.9745
629.210	-24.64	-54.497	-79.135	-66.925	-20.9745	-25.9745
629.220	-26.02	-54.554	-80.576	-68.366	-20.9745	-25.9745
629.230	-27.71	-54.635	-82.348	-70.138	-20.9745	-25.9745
629.240	-25.66	-54.757	-80.421	-68.211	-20.9745	-25.9745
629.250	-22.01	-54.748	-76.759	-64.549	-20.9745	-25.9745
629.260	-22.19	-54.612	-76.804	-64.594	-20.9745	-25.9745
629.270	-22.19	-54.646	-76.838	-64.628	-20.9745	-25.9745
629.280	-23.78	-54.759	-78.541	-66.331	-20.9745	-25.9745
629.290	-23.90	-54.813	-78.714	-66.504	-20.9745	-25.9745
629.300	-23.66	-54.791	-78.452	-66.242	-20.9745	-25.9745
629.310	-24.02	-54.706	-78.730	-66.520	-20.9745	-25.9745
629.320	-26.18	-54.965	-81.145	-68.935	-20.9745	-25.9745
629.330	-23.54	-54.74	-78.281	-66.071	-20.9745	-25.9745
629.340	-24.80	-54.956	-79.757	-67.547	-20.9745	-25.9745
629.350	-24.64	-55.103	-79.743	-67.533	-20.9745	-25.9745
629.360	-24.03	-54.979	-79.004	-66.794	-20.9745	-25.9745
629.370	-23.17	-55.044	-78.216	-66.006	-20.9745	-25.9745
629.380	-24.05	-55.057	-79.110	-66.900	-20.9745	-25.9745
629.390	-23.28	-55.05	-78.329	-66.119	-20.9745	-25.9745
629.400	-23.29	-55.144	-78.434	-66.224	-20.9745	-25.9745
629.410	-24.96	-55.185	-80.145	-67.935	-20.9745	-25.9745
629.420	-23.08	-55.224	-78.304	-66.094	-20.9745	-25.9745
629.430	-24.99	-55.14	-80.126	-67.916	-20.9745	-25.9745
629.440	-22.21	-55.023	-77.228	-65.018	-20.9745	-25.9745
629.450	-25.48	-55.271	-80.750	-68.540	-20.9745	-25.9745
629.460	-23.17	-55.212	-78.384	-66.174	-20.9745	-25.9745
629.470	-22.20	-55.42	-77.616	-65.406	-20.9745	-25.9745
629.480	-26.35	-55.496	-81.848	-69.638	-20.9745	-25.9745
629.490	-24.45	-55.328	-79.779	-67.569	-20.9745	-25.9745

629.500	-23.27	-55.314	-78.588	-66.378	-20.9745	-25.9745
629.510	-23.09	-55.377	-78.466	-66.256	-20.9745	-25.9745
629.520	-24.96	-55.403	-80.365	-68.155	-20.9745	-25.9745
629.530	-23.11	-55.52	-78.626	-66.416	-20.9745	-25.9745
629.540	-25.14	-55.577	-80.721	-68.511	-20.9745	-25.9745
629.550	-26.02	-55.627	-81.644	-69.434	-20.9745	-25.9745
629.560	-23.79	-55.596	-79.387	-67.177	-20.9745	-25.9745
629.570	-22.27	-55.646	-77.918	-65.708	-20.9745	-25.9745
629.580	-24.15	-55.712	-79.865	-67.655	-20.9745	-25.9745
629.590	-25.32	-55.679	-81.001	-68.791	-20.9745	-25.9745
629.600	-25.15	-55.667	-80.818	-68.608	-20.9745	-25.9745
629.610	-27.02	-55.519	-82.542	-70.332	-20.9745	-25.9745
629.620	-22.46	-55.691	-78.150	-65.940	-20.9745	-25.9745
629.630	-21.92	-55.8	-77.723	-65.513	-20.9745	-25.9745
629.640	-24.65	-55.736	-80.386	-68.176	-20.9745	-25.9745
629.650	-22.91	-55.719	-78.626	-66.416	-20.9745	-25.9745
629.660	-23.66	-55.743	-79.403	-67.193	-20.9745	-25.9745
629.670	-25.31	-55.786	-81.094	-68.884	-20.9745	-25.9745
629.680	-24.47	-55.911	-80.379	-68.169	-20.9745	-25.9745
629.690	-25.32	-55.961	-81.278	-69.068	-20.9745	-25.9745
629.700	-23.02	-56.029	-79.046	-66.836	-20.9745	-25.9745
629.710	-26.79	-55.931	-82.724	-70.514	-20.9745	-25.9745
629.720	-24.64	-55.99	-80.629	-68.419	-20.9745	-25.9745
629.730	-26.59	-56.109	-82.696	-70.486	-20.9745	-25.9745
629.740	-22.56	-56.066	-78.625	-66.415	-20.9745	-25.9745
629.750	-24.97	-56.114	-81.079	-68.869	-20.9745	-25.9745
629.760	-26.37	-56.21	-82.579	-70.369	-20.9745	-25.9745
629.770	-23.92	-56.257	-80.174	-67.964	-20.9745	-25.9745
629.780	-26.01	-56.238	-82.243	-70.033	-20.9745	-25.9745
629.790	-27.46	-56.216	-83.679	-71.469	-20.9745	-25.9745
629.800	-23.19	-56.282	-79.475	-67.265	-20.9745	-25.9745
629.810	-23.00	-56.288	-79.290	-67.080	-20.9745	-25.9745
629.820	-24.96	-56.2	-81.163	-68.953	-20.9745	-25.9745
629.830	-26.20	-56.309	-82.508	-70.298	-20.9745	-25.9745
629.840	-24.46	-56.351	-80.812	-68.602	-20.9745	-25.9745
629.850	-23.64	-56.355	-79.999	-67.789	-20.9745	-25.9745
629.860	-23.54	-56.456	-79.991	-67.781	-20.9745	-25.9745
629.870	-25.31	-56.461	-81.771	-69.561	-20.9745	-25.9745
629.880	-24.18	-56.265	-80.448	-68.238	-20.9745	-25.9745
629.890	-23.55	-56.498	-80.045	-67.835	-20.9745	-25.9745
629.900	-25.49	-56.556	-82.042	-69.832	-20.9745	-25.9745
629.910	-26.02	-56.529	-82.552	-70.342	-20.9745	-25.9745
629.920	-26.80	-56.646	-83.444	-71.234	-20.9745	-25.9745
629.930	-26.03	-56.493	-82.518	-70.308	-20.9745	-25.9745
629.940	-24.97	-56.734	-81.701	-69.491	-20.9745	-25.9745
629.950	-21.57	-56.683	-78.254	-66.044	-20.9745	-25.9745

629.960	-26.19	-56.821	-83.006	-70.796	-20.9745	-25.9745
629.970	-24.96	-56.836	-81.799	-69.589	-20.9745	-25.9745
629.980	-26.59	-56.733	-83.320	-71.110	-20.9745	-25.9745
629.990	-22.83	-56.786	-79.617	-67.407	-20.9745	-25.9745
630.000	-25.49	-56.815	-82.302	-70.092	-20.9745	-25.9745
630.010	-23.20	-56.877	-80.074	-67.864	-20.9745	-25.9745
630.020	-24.97	-56.876	-81.843	-69.633	-20.9745	-25.9745
630.030	-22.37	-56.899	-79.269	-67.059	-20.9745	-25.9745
630.040	-23.80	-57.064	-80.859	-68.649	-20.9745	-25.9745
630.050	-24.82	-56.975	-81.795	-69.585	-20.9745	-25.9745
630.060	-25.32	-56.822	-82.145	-69.935	-20.9745	-25.9745
630.070	-24.80	-57.01	-81.807	-69.597	-20.9745	-25.9745
630.080	-23.79	-56.908	-80.693	-68.483	-20.9745	-25.9745
630.090	-25.83	-57.034	-82.865	-70.655	-20.9745	-25.9745
630.100	-25.33	-57.22	-82.550	-70.340	-20.9745	-25.9745
630.110	-24.64	-57.038	-81.673	-69.463	-20.9745	-25.9745
630.120	-26.59	-57.088	-83.673	-71.463	-20.9745	-25.9745
630.130	-25.31	-57.171	-82.479	-70.269	-20.9745	-25.9745
630.140	-25.14	-57.177	-82.316	-70.106	-20.9745	-25.9745
630.150	-24.30	-57.191	-81.491	-69.281	-20.9745	-25.9745
630.160	-26.02	-57.299	-83.319	-71.109	-20.9745	-25.9745
630.170	-24.05	-57.274	-81.322	-69.112	-20.9745	-25.9745
630.180	-24.31	-57.319	-81.626	-69.416	-20.9745	-25.9745
630.190	-24.45	-57.31	-81.760	-69.550	-20.9745	-25.9745
630.200	-23.19	-57.217	-80.410	-68.200	-20.9745	-25.9745
630.210	-25.51	-57.213	-82.720	-70.510	-20.9745	-25.9745
630.220	-27.22	-57.525	-84.744	-72.534	-20.9745	-25.9745
630.230	-24.17	-57.392	-81.559	-69.349	-20.9745	-25.9745
630.240	-27.01	-57.484	-84.495	-72.285	-20.9745	-25.9745
630.250	-24.81	-57.574	-82.383	-70.173	-20.9745	-25.9745
630.260	-27.94	-57.46	-85.403	-73.193	-20.9745	-25.9745
630.270	-25.14	-57.63	-82.767	-70.557	-20.9745	-25.9745
630.280	-24.63	-57.542	-82.173	-69.963	-20.9745	-25.9745
630.290	-25.49	-57.61	-83.096	-70.886	-20.9745	-25.9745
630.300	-24.31	-57.626	-81.935	-69.725	-20.9745	-25.9745
630.310	-24.16	-57.613	-81.776	-69.566	-20.9745	-25.9745
630.320	-23.91	-57.697	-81.605	-69.395	-20.9745	-25.9745
630.330	-24.97	-57.552	-82.526	-70.316	-20.9745	-25.9745
630.340	-25.49	-57.859	-83.345	-71.135	-20.9745	-25.9745
630.350	-22.55	-57.737	-80.285	-68.075	-20.9745	-25.9745
630.360	-25.30	-57.648	-82.952	-70.742	-20.9745	-25.9745
630.370	-27.01	-57.988	-84.994	-72.784	-20.9745	-25.9745
630.380	-24.62	-57.798	-82.420	-70.210	-20.9745	-25.9745
630.390	-25.49	-57.962	-83.453	-71.243	-20.9745	-25.9745
630.400	-23.92	-57.914	-81.835	-69.625	-20.9745	-25.9745
630.410	-25.50	-58.001	-83.505	-71.295	-20.9745	-25.9745

630.420	-27.22	-57.84	-85.059	-72.849	-20.9745	-25.9745
630.430	-27.24	-58.071	-85.315	-73.105	-20.9745	-25.9745
630.440	-27.71	-57.924	-85.636	-73.426	-20.9745	-25.9745
630.450	-26.02	-57.938	-83.958	-71.748	-20.9745	-25.9745
630.460	-26.36	-57.894	-84.254	-72.044	-20.9745	-25.9745
630.470	-24.45	-57.937	-82.389	-70.179	-20.9745	-25.9745
630.480	-27.24	-58.211	-85.448	-73.238	-20.9745	-25.9745
630.490	-26.01	-58.326	-84.339	-72.129	-20.9745	-25.9745
630.500	-24.45	-58.267	-82.721	-70.511	-20.9745	-25.9745
630.510	-26.00	-58.101	-84.103	-71.893	-20.9745	-25.9745
630.520	-25.49	-58.201	-83.690	-71.480	-20.9745	-25.9745
630.530	-26.36	-58.236	-84.591	-72.381	-20.9745	-25.9745
630.540	-25.85	-58.198	-84.048	-71.838	-20.9745	-25.9745
630.550	-25.48	-58.295	-83.776	-71.566	-20.9745	-25.9745
630.560	-25.51	-58.254	-83.759	-71.549	-20.9745	-25.9745
630.570	-24.96	-58.287	-83.251	-71.041	-20.9745	-25.9745
630.580	-26.02	-58.135	-84.159	-71.949	-20.9745	-25.9745
630.590	-26.57	-58.394	-84.964	-72.754	-20.9745	-25.9745
630.600	-24.96	-58.371	-83.333	-71.123	-20.9745	-25.9745
630.610	-25.84	-58.391	-84.231	-72.021	-20.9745	-25.9745
630.620	-25.50	-58.531	-84.032	-71.822	-20.9745	-25.9745
630.630	-26.21	-58.536	-84.742	-72.532	-20.9745	-25.9745
630.640	-28.17	-58.583	-86.754	-74.544	-20.9745	-25.9745
630.650	-25.66	-58.621	-84.281	-72.071	-20.9745	-25.9745
630.660	-26.03	-58.384	-84.414	-72.204	-20.9745	-25.9745
630.670	-26.58	-58.618	-85.193	-72.983	-20.9745	-25.9745
630.680	-26.81	-58.63	-85.438	-73.228	-20.9745	-25.9745
630.690	-26.60	-58.582	-85.181	-72.971	-20.9745	-25.9745
630.700	-24.81	-58.589	-83.396	-71.186	-20.9745	-25.9745
630.710	-24.65	-58.911	-83.558	-71.348	-20.9745	-25.9745
630.720	-25.65	-58.813	-84.466	-72.256	-20.9745	-25.9745
630.730	-26.19	-58.867	-85.056	-72.846	-20.9745	-25.9745
630.740	-25.84	-58.776	-84.618	-72.408	-20.9745	-25.9745
630.750	-26.58	-58.666	-85.241	-73.031	-20.9745	-25.9745
630.760	-27.03	-58.958	-85.990	-73.780	-20.9745	-25.9745
630.770	-26.02	-58.849	-84.866	-72.656	-20.9745	-25.9745
630.780	-27.24	-59.007	-86.249	-74.039	-20.9745	-25.9745
630.790	-26.35	-58.808	-85.162	-72.952	-20.9745	-25.9745
630.800	-27.95	-58.966	-86.919	-74.709	-20.9745	-25.9745
630.810	-26.79	-58.867	-85.657	-73.447	-20.9745	-25.9745
630.820	-26.58	-59.103	-85.680	-73.470	-20.9745	-25.9745
630.830	-25.66	-58.856	-84.520	-72.310	-20.9745	-25.9745
630.840	-27.94	-59.016	-86.951	-74.741	-20.9745	-25.9745
630.850	-23.54	-58.93	-82.467	-70.257	-20.9745	-25.9745
630.860	-26.20	-59.174	-85.369	-73.159	-20.9745	-25.9745
630.870	-26.20	-58.966	-85.161	-72.951	-20.9745	-25.9745

630.880	-25.67	-59.289	-84.960	-72.750	-20.9745	-25.9745
630.890	-25.67	-59.193	-84.859	-72.649	-20.9745	-25.9745
630.900	-27.46	-59.075	-86.539	-74.329	-20.9745	-25.9745
630.910	-27.95	-59.28	-87.230	-75.020	-20.9745	-25.9745
630.920	-23.55	-59.098	-82.643	-70.433	-20.9745	-25.9745
630.930	-23.40	-59.373	-82.772	-70.562	-20.9745	-25.9745
630.940	-26.20	-58.929	-85.124	-72.914	-20.9745	-25.9745
630.950	-24.03	-59.377	-83.408	-71.198	-20.9745	-25.9745
630.960	-26.20	-59.417	-85.617	-73.407	-20.9745	-25.9745
630.970	-24.98	-59.304	-84.286	-72.076	-20.9745	-25.9745
630.980	-23.27	-59.529	-82.796	-70.586	-20.9745	-25.9745
630.990	-26.03	-59.231	-85.263	-73.053	-20.9745	-25.9745
631.000	-19.94	-59.519	-79.459	-67.249	-20.9745	-25.9745
631.010	-27.47	-59.399	-86.867	-74.657	-20.9745	-25.9745
631.020	-24.79	-59.444	-84.236	-72.026	-20.9745	-25.9745
631.030	-24.81	-59.751	-84.560	-72.350	-20.9745	-25.9745
631.040	-26.21	-59.713	-85.920	-73.710	-20.9745	-25.9745
631.050	-28.38	-59.836	-88.216	-76.006	-20.9745	-25.9745
631.060	-26.59	-59.53	-86.124	-73.914	-20.9745	-25.9745
631.070	-26.58	-59.857	-86.432	-74.222	-20.9745	-25.9745
631.080	-25.67	-59.63	-85.296	-73.086	-20.9745	-25.9745
631.090	-26.60	-59.81	-86.407	-74.197	-20.9745	-25.9745
631.100	-23.53	-59.803	-83.333	-71.123	-20.9745	-25.9745
631.110	-25.85	-59.667	-85.516	-73.306	-20.9745	-25.9745
631.120	-26.36	-59.792	-86.152	-73.942	-20.9745	-25.9745
631.130	-26.02	-59.9	-85.924	-73.714	-20.9745	-25.9745
631.140	-27.48	-59.789	-87.264	-75.054	-20.9745	-25.9745
631.150	-27.01	-59.872	-86.877	-74.667	-20.9745	-25.9745
631.160	-27.96	-60.077	-88.036	-75.826	-20.9745	-25.9745
631.170	-25.51	-60.034	-85.539	-73.329	-20.9745	-25.9745
631.180	-25.68	-59.779	-85.459	-73.249	-20.9745	-25.9745
631.190	-24.16	-59.906	-84.061	-71.851	-20.9745	-25.9745
631.200	-24.46	-59.915	-84.373	-72.163	-20.9745	-25.9745
631.210	-24.64	-60.005	-84.648	-72.438	-20.9745	-25.9745
631.220	-26.36	-60.022	-86.383	-74.173	-20.9745	-25.9745
631.230	-25.49	-59.794	-85.288	-73.078	-20.9745	-25.9745
631.240	-24.65	-60.204	-84.856	-72.646	-20.9745	-25.9745
631.250	-25.50	-60.183	-85.684	-73.474	-20.9745	-25.9745
631.260	-23.52	-60.055	-83.576	-71.366	-20.9745	-25.9745
631.270	-27.22	-60.118	-87.338	-75.128	-20.9745	-25.9745
631.280	-26.57	-60.231	-86.805	-74.595	-20.9745	-25.9745
631.290	-25.67	-60.438	-86.111	-73.901	-20.9745	-25.9745
631.300	-23.11	-60.242	-83.352	-71.142	-20.9745	-25.9745
631.310	-25.30	-60.03	-85.334	-73.124	-20.9745	-25.9745
631.320	-24.97	-60.471	-85.437	-73.227	-20.9745	-25.9745
631.330	-25.49	-60.31	-85.802	-73.592	-20.9745	-25.9745

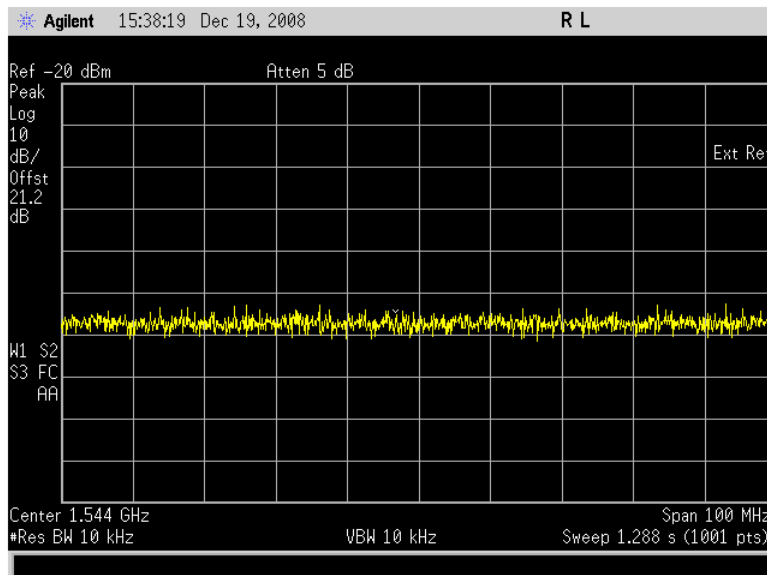
631.340	-24.65	-60.308	-84.955	-72.745	-20.9745	-25.9745
631.350	-25.48	-60.313	-85.796	-73.586	-20.9745	-25.9745
631.360	-23.55	-60.485	-84.033	-71.823	-20.9745	-25.9745
631.370	-25.66	-60.339	-86.001	-73.791	-20.9745	-25.9745
631.380	-25.67	-60.678	-86.347	-74.137	-20.9745	-25.9745
631.390	-25.84	-60.236	-86.074	-73.864	-20.9745	-25.9745
631.400	-25.67	-60.344	-86.015	-73.805	-20.9745	-25.9745
631.410	-27.46	-60.568	-88.032	-75.822	-20.9745	-25.9745
631.420	-27.24	-60.333	-87.571	-75.361	-20.9745	-25.9745
631.430	-24.65	-60.694	-85.347	-73.137	-20.9745	-25.9745
631.440	-24.82	-60.497	-85.314	-73.104	-20.9745	-25.9745
631.450	-27.93	-60.57	-88.501	-76.291	-20.9745	-25.9745
631.460	-27.46	-60.634	-88.096	-75.886	-20.9745	-25.9745
631.470	-27.94	-60.824	-88.764	-76.554	-20.9745	-25.9745
631.480	-26.36	-60.576	-86.938	-74.728	-20.9745	-25.9745
631.490	-28.17	-60.342	-88.514	-76.304	-20.9745	-25.9745
631.500	-24.80	-60.725	-85.529	-73.319	-20.9745	-25.9745
631.510	-26.01	-60.804	-86.817	-74.607	-20.9745	-25.9745
631.520	-26.79	-60.843	-87.632	-75.422	-20.9745	-25.9745
631.530	-26.81	-60.924	-87.737	-75.527	-20.9745	-25.9745
631.540	-24.47	-60.928	-85.396	-73.186	-20.9745	-25.9745
631.550	-23.55	-60.84	-84.389	-72.179	-20.9745	-25.9745
631.560	-26.57	-60.777	-87.348	-75.138	-20.9745	-25.9745
631.570	-25.33	-61.022	-86.348	-74.138	-20.9745	-25.9745
631.580	-27.71	-60.775	-88.489	-76.279	-20.9745	-25.9745
631.590	-25.15	-60.991	-86.136	-73.926	-20.9745	-25.9745
631.600	-24.82	-61.234	-86.055	-73.845	-20.9745	-25.9745
631.610	-26.36	-61.071	-87.435	-75.225	-20.9745	-25.9745
631.620	-26.81	-61.025	-87.838	-75.628	-20.9745	-25.9745
631.630	-24.16	-60.944	-85.100	-72.890	-20.9745	-25.9745
631.640	-25.51	-61.093	-86.599	-74.389	-20.9745	-25.9745
631.650	-24.63	-61.109	-85.735	-73.525	-20.9745	-25.9745
631.660	-25.84	-61.29	-87.125	-74.915	-20.9745	-25.9745
631.670	-24.82	-61.072	-85.889	-73.679	-20.9745	-25.9745
631.680	-26.79	-61.411	-88.199	-75.989	-20.9745	-25.9745
631.690	-26.58	-61.259	-87.837	-75.627	-20.9745	-25.9745
631.700	-27.22	-61.347	-88.570	-76.360	-20.9745	-25.9745
631.710	-27.71	-61.299	-89.009	-76.799	-20.9745	-25.9745
631.720	-25.68	-61.236	-86.917	-74.707	-20.9745	-25.9745
631.730	-25.48	-61.321	-86.799	-74.589	-20.9745	-25.9745
631.740	-25.50	-61.321	-86.821	-74.611	-20.9745	-25.9745
631.750	-27.23	-61.378	-88.605	-76.395	-20.9745	-25.9745
631.760	-27.24	-61.404	-88.643	-76.433	-20.9745	-25.9745
631.770	-26.60	-61.621	-88.217	-76.007	-20.9745	-25.9745
631.780	-25.66	-61.509	-87.170	-74.960	-20.9745	-25.9745
631.790	-23.79	-61.412	-85.200	-72.990	-20.9745	-25.9745

631.800	-27.02	-61.528	-88.545	-76.335	-20.9745	-25.9745
631.810	-26.02	-61.609	-87.627	-75.417	-20.9745	-25.9745
631.820	-26.81	-61.763	-88.574	-76.364	-20.9745	-25.9745
631.830	-27.46	-61.555	-89.011	-76.801	-20.9745	-25.9745
631.840	-25.84	-61.241	-87.082	-74.872	-20.9745	-25.9745
631.850	-26.81	-61.475	-88.286	-76.076	-20.9745	-25.9745
631.860	-26.81	-61.588	-88.401	-76.191	-20.9745	-25.9745
631.870	-25.51	-61.631	-87.140	-74.930	-20.9745	-25.9745
631.880	-27.47	-61.747	-89.219	-77.009	-20.9745	-25.9745
631.890	-26.58	-61.63	-88.214	-76.004	-20.9745	-25.9745
631.900	-26.00	-61.663	-87.667	-75.457	-20.9745	-25.9745
631.910	-25.31	-61.569	-86.877	-74.667	-20.9745	-25.9745
631.920	-27.93	-61.698	-89.631	-77.421	-20.9745	-25.9745
631.930	-27.03	-61.914	-88.944	-76.734	-20.9745	-25.9745
631.940	-26.38	-61.808	-88.190	-75.980	-20.9745	-25.9745
631.950	-26.58	-61.785	-88.361	-76.151	-20.9745	-25.9745
631.960	-25.14	-61.761	-86.898	-74.688	-20.9745	-25.9745
631.970	-27.23	-61.852	-89.079	-76.869	-20.9745	-25.9745
631.980	-26.18	-62.035	-88.218	-76.008	-20.9745	-25.9745
631.990	-27.23	-61.925	-89.150	-76.940	-20.9745	-25.9745
+12 MHz From						
Channel Edge						
632.000	-26.01	-62.14	-88.153	-75.943	-20.9745	-25.9745

4.4.2 Protection to Radio Navigation Satellite Services

Method of Measurement:

Tests were performed to ensure compliance with FCC Rule §74.794(a)(3)(b)(1), as listed above, that spurious output in the GPS band must be attenuated at least 85dB. To confirm compliance with this rule section the test setup depicted in Figure 4-3 was used. The LPU-1000, modulated with a ATSC compliant 8-VSB modulator, was adjusted to obtain a 100 Watt average channel power (50dBm) measurement on the spectrum analyzer at the output of the mask filter. The metering circuit was adjusted to obtain a 100% reading on the forward power meter. With the transmitter properly configured for digital operation and the average power set to 100 Watts, spurious emissions into the GPS band were measured. Results of the measurements are shown in the spectrum analyzer plot displayed in Figure 4-13. In no case were spurious emissions observed above the -85dB threshold.



4.4.3 Spurious Emissions Tests with Analog Modulation

Part 74.736 of the Rules states:

§ 74.736 Emissions and bandwidth.

(a) The license of a low power TV, TV translator, or TV booster station authorizes the transmission of the visual signal by amplitude modulation (A5) and the accompanying aural signal by frequency modulation (F3).

(b) *Standard width television channels will be assigned and the transmitting apparatus shall be operated so as to limit spurious emissions to the lowest practicable value. Any emissions including intermodulation products and radio frequency harmonics which are not essential for the transmission of the desired picture and sound information shall be considered to be spurious emissions.*

(c) Any emissions appearing on frequencies more than 3 MHz above or below the upper and lower edges, respectively, of the assigned channel shall be attenuated no less than:

- (1) 30 dB for transmitters rated at no more than 1 watt power output.
- (2) 50 dB for transmitters rated at more than 1 watt power output.
- (3) 60 dB for transmitters rated at more than 100 watts power output.

(d) Greater attenuation than that specified in paragraph (c) of this section may be required if interference results from emissions outside the assigned channel.

Method of Measurement:

To confirm compliance with the above rule for analog television operations, tests were then run on the separate visual and aural carriers at their rated output levels using the test setup in Figure 4-1. Measurements were taken after the output filter. The transmitter was modulated with color bars at 87.5% and at a peak sync visual output of 250 watts (54dBm). The results of the test are displayed on the spectrum analyzer plot labeled Figure 4-14. In no case are the out of band emissions attenuated less than -60dB relative to the peak carrier level.

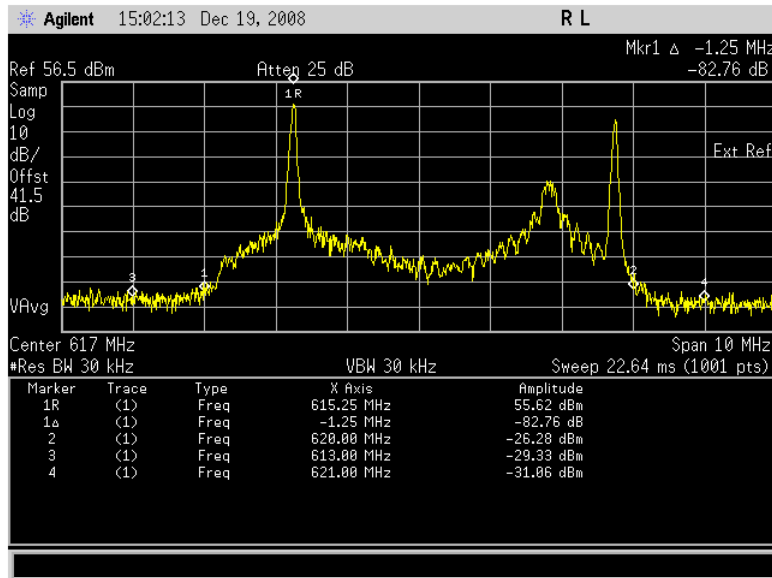


Figure 4-14: Out of Band Attenuation for Analog Operations

4.5 FREQUENCY STABILITY

The LPU transmitter series utilizes a triple conversion architecture to generate the output channel frequency from the 44 MHz IF input. The first conversion mixes the 44 MHz signal with the first Local Oscillator (LO1) and creates a second IF (IF2) centered at 466 MHz. The IF2 signal is then mixed with a second local oscillator (LO2) to produce the third IF (IF3) centered at 2154 MHz. The IF3 signal is then mixed with the third local oscillator to produce the desired output channel. The local oscillators are locked to a 10 MHz ovenized crystal oscillator (F_{ref}) which provides the required frequency stability.

The first converter, first local oscillator frequency is 422 MHz and is generated in the following way. The 10 MHz oscillator reference input is divided by 5 and is used as the reference for a phase locked loop. The divide ratio of the loop is 844, so when locked the VCO output is at 1688 MHz which is fed to the 2nd mixer in the first converter and also divided by 4 and fed to the 1st in the first converter. The resultant mix at the second mixer provides a 2154 MHz output. The output frequency is derived at the output of the output converter by mixing the 2154 MHz input from the first converter with a 1 MHz step tuned PPL tuned LO (LO3) which has an output of between 2627 and 2957 MHz. The resultant high side mix produces a desired output frequency of between 473 to 803 MHz in 1 MHz steps.

The equation for the output frequency of LO1= $((F_{ref}/5)*844)/4 = F_{ref}*42.2$.

Therefore, LO1= 42.2* F_{ref}

The equation for the output frequency of LO2= $((F_{ref}/5)*844) = F_{ref}*168.8$.

The third local oscillator (LO3) is variable and generates frequencies between 2627 and 2957 MHz in the following way. The 10 MHz oscillator is divided by 10 and used as the

reference in a phase locked loop circuit. The VCO output is divided by N with N variable between 2627 and 2957 MHz and this is fed to the phase detector. The frequency of the VCO will be N MHz.

The equation for the output frequency of LO3= $(F_{ref}/10)*N = F_{ref}*(N/10)$.

The transmitter output frequency (F_{out}) is determined by the following equations:

$$IF2 = LO1 + IF$$

$$IF3 = LO2 + IF2$$

$$F_{out} = LO3 - IF3$$

$$F_{out} = LO3 - LO2 - LO1 - IF$$

$$F_{out} = F_{ref}*((N/10) - 168.8 * F_{ref} - 42.2 * F_{ref}) - IF$$

$$F_{out} = F_{ref}*((N/10) - 211) - IF \quad N = 2627 \text{ to } 2957$$

$F_{ref} = 10\text{MHz} \pm dF$, where dF is frequency Variance of 10 MHz oscillator.

So for the frequency stability term of the output is $dF_{out} = \pm dF*((N/10) - 211)$.

The frequency stability of the 10 MHz oscillator over temperature is $\pm 2e-7$ so for the 10 MHz oscillator $dF = 2 \text{ Hz}$. The worst case frequency is when $N = 2957$ so worst case stability is:

$$dF_{out} = \pm 2*((N/10) - 211) = \pm 169.4 \text{ Hz.}$$

Alternatively, the 10MHz reference oscillator may be locked to an external precision 10 MHz reference source such as a GPS or LORAN receiver to provide an even higher stability.

4.6 FIELD STRENGTH OF SPURIOUS EMISSIONS

Visual Carrier or 8-VSB Output Power: 250 Watts Peak or 100 Watts Average Power

Modulation: NTSC Composite Television Signals or 8-VSB Modulated Carriers

Spectrum Analyzer Settings:

Frequency Span:	1 MHz/Division
Center Frequency:	Adjusted Continuously from 10 MHz to 26 GHz
Resolution Bandwidth:	100 KHz
Video Bandwidth:	100 KHz
Analyzer Noise Floor	<-89dBm

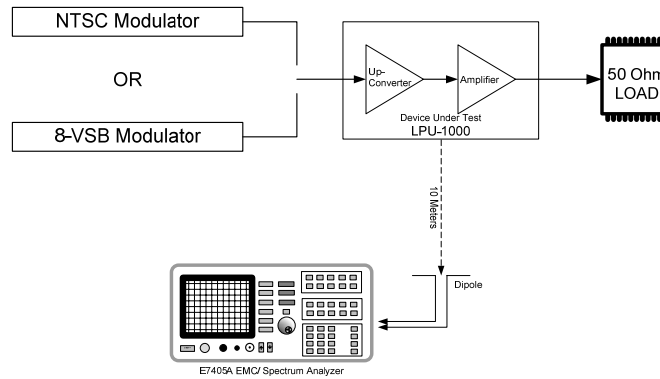


Figure 4-15: Test Setup for Measuring Radiated Emissions

Method of Measurement:

Using the test setup in Figure 4-15, the transmitter was driven to full power (50dBm) with analog visual and aural modulation. The test was repeated using 8-VSB modulation at an average power of 45dBm on the channel, and no difference was noted. A center frequency of 617 MHz was used as a reference. The spectrum analyzer was moved 10 meters from the unit under test. A dipole antenna was cut to the 10 MHz reference oscillator frequency and oriented to maximize the received level and the data was recorded into Table 4-8. Then the dipole was cut to the 44 MHz IF frequency, then the 1st, 2nd, and 3rd LO frequencies, where each time the antenna was oriented to achieve the maximum signal and the data then recorded. Then the antenna was cut to the 617 MHz output reference frequency and then the 2nd through 10th harmonic frequencies where each time the antenna was connected to the spectrum analyzer and oriented to achieve a maximum receive level and the data recorded.

Table 4-5: Radiated Emissions Data

FREQUENCY (MHz)	SOURCE	PEAK LEVEL (dB)
10	10 MHz Reference	None Observed
44	IF Frequency	None Observed
422	1 st LO	None Observed
1688	2 nd LO	None Observed
2771	3 rd LO	
617	Reference Channel	None Observed
1234	2 nd Harmonic	None Observed
1851	3 rd Harmonic	None Observed
2468	4 th Harmonic	None Observed
3085	5 th Harmonic	None Observed
3702	6 th Harmonic	None Observed
4319	7 th Harmonic	None Observed
4936	8 th Harmonic	None Observed
5553	9 th Harmonic	None Observed
6170	10 th Harmonic	None Observed

Spurious Radiation:

The transmitter system is comprised of fully enclosed modules, encapsulated in a doubly enclosed casing. Due to the design techniques employed for the very high gain of the system and the mitigation of signal leakage, no radiated signals were detected to the threshold of the Spectrum Analyzer of -89dB.

5.0 SUMMARY

This report demonstrates that the LPU-1000 transmitter system meets or exceeds the FCC Type Acceptance Criteria for devices utilized under FCC Rule Parts 73 and 74. Peak and average power outputs were verified with direct power measurements at UHF. Measurements of spurious emissions at the RF output indicated no emissions above that specified in the applicable rules. Field strength measurements of spurious emissions revealed no detectable emissions down to the measurement equipment threshold of <-89 dBm.