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March 9, 2001

RECEIVED

MAR 9 2001

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

BY HAND

Ms. Magalie Roman Salas, Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
12th Street Lobby, TW-A325
Washington, DC 20554

Re: IB Docket No. 95-91

Dear Ms. Salas:

As requested by FCC staff, on March 8, 2001, Sirius Satellite Radio Inc. submitted the following terrestrial repeater site information to Rockie Patterson, Ronald Repasi and Rosalee Chiara: 1) Sirius terrestrial site information for Boston, Atlanta, and San Francisco; 2) the Houston *ex parte* errata filed February 13, 2001, clarifying certain operating parameters of its terrestrial repeater in Houston, Texas; and 3) two antenna elevation plots.

Should there be any questions concerning this matter, please contact the undersigned.

Very truly yours,

Jennifer D. Hindin

Jennifer D. Hindin

Attachments

cc: Ron Repasi
Rockie Patterson
Rosalee Chiara
Rob Briskman
Mark Gaudino

0+9

Gaudino Mark
<MGaudino@siriusradio.com>

03/08/01 03:39 PM

To: Ronald Repasi <RREPASI@fcc.gov>
cc: 'Rockie Patterson' <RPATTERS@fcc.gov>, Rosalee Chiara <RCHIARA@fcc.gov>, 'Carl Frank' <cfrank@wrf.com>, 'Jennifer Hindin' <JHindin@wrf.com>, Donnelly Patrick <PDonnelly@siriusradio.com>, Briskman Rob <RBriskman@siriusradio.com>
Subject: Action items from the March 1st meeting with WCS - SDARS - FCC

Mr. Repasi:

Ron,

As requested at our meeting of March 1st, please find attached the following;

1. Sirius terrestrial site information for Boston, Atlanta, and San Francisco which was provided directly to each WCS party via email on January 22nd, 2001. I have also attached the delivery email for your review. (See attachments "Atlanta_Boston_SF.pdf" and email "RE: DARS Repeater Info")
2. the Houston Ex Parte Errata filed February 13th with Houston site information that was used to provide the original Ex Parte on Feb 5th with the 2KW versus 40KW study. (See attachment "Houston Repeater Ex Parte Final")
3. Two antenna elevation plots to show the 10 to > 20 dB antenna discrimination of our antennas
a. one from the Andrew web page which provides general elevation patterns for our type of antennas (see attachment "Andrew HMD Antenna Elevation") and
b. one with actual antenna measurements which I have plotted for review (see attachment "Andrew 90deg Elevation")

<<Atlanta_Boston_SFran.pdf>> <<RE: DARS Repeater Info>> <<Houston Repeater Ex Parte Final.doc>> <<Andrew HMD Antenna Elevation.pdf>> <<Andrew 90deg Elevation.xls>>

Please let me know if there are any questions.

Best regards,

Mark Gaudino

- Atlanta_Boston_SFran.pdf
Content-Type: text/plain; charset="iso-8859-1"

I think we have slightly different recollections of the meeting. I am not sure our specific site locations are critical to perform the calculations of whether fewer high-power sites provide less interference than more lower-power sites. Moreover, we still do not understand how the study you commissioned could have assumed facts about Sirius repeaters-such as the planned number of sites-that were contrary to information plainly provided on the record over three years ago, and failed to address the technical analysis contained in Sirius' filings now more than a year old. Put differently, your complaints about timing seem misdirected.

We would have preferred a less confrontational approach to this entire issue-which might have started by talking to us. You may remember that the DARS licensees negotiated in good faith with WCS licensees (and reached a compromise) during the negotiations with Mexico. We hope we can all agree here as well.
In this spirit, attached is a .pfd file with site information for same cities also provided by XM Radio: Boston, SF and Atlanta.
We are working on our further response for later this week.
(See attached file: Atlanta_Boston_SFran.pdf)

Carl R. Frank
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"Sinderbrand, Paul" <PSinderbrand@wbklaw.com> 01/19/01 02:04 PM

To: 'Gaudino Mark ' <MGaudino@siriusradio.com>, "George Harter' ' <george@haa.com>
cc: "Carl Frank' ' <cfrank@WRF.com>, "'wwiltshire@harriswiltshire.com'" <wwiltshire@harriswiltshire.com>, "'karen.possner@bellsouth.com'" <karen.possner@bellsouth.com>, "'lsolomon@shb.com'" <lsolomon@shb.com>
Subject: RE: DARS Repeater Info

I do not believe that this is the procedure we had agreed to at our meeting. It was certainly the understanding of the WCS community that we would be provided the list in advance of the deadline for submissions to the FCC so that would could analyze the impact of the high-power terrestrial DARS repeaters and determine the impact of those repeaters on WCS licensees' business plans and future operations. Without details regarding the

location and technical characteristics of the high-power boosters, the WCS community simply is in no position to address the question of whether it would "prefer" the interference that would be caused by those repeaters as opposed to the alternative of additional lower-power repeaters.
Paul Sinderbrand

-----Original Message-----
From: Gaudino Mark
To: 'George Harter'
Cc: 'Paul Sinderbrand (E-mail)'; 'Carl Frank'
Sent: 1/19/01 1:35 PM
Subject: RE: DARS Repeater Info

George,

As directed at the meeting, we intend to file our proposed rule on or before the 28th. Thereafter, we will provide listing of our "initial" sites, as rapidly as possible. Some delay will be necessary in that we are still nailing down site leases in some locations. Thus you will likely get a partial list soon, augmented later.
Best Regards,

Mark Gaudino

-----Original Message-----
From: George Harter [mailto:george@haa.com]
Sent: Friday, January 19, 2001 1:45 AM
To: 'mgaudino@siriusradio.com'
Cc: 'Paul Sinderbrand (E-mail)'
Subject: DARS Repeater Info

Mark,

I have not received the detailed info on the 255 planned high power repeaters. Any idea when this info will be available? January 25th is coming up fast.
Regards,
George Harter
MSI

- Houston Repeater Ex Parte Final.doc
- Andrew HMD Antenna Elevation.pdf
- Andrew 90deg Elevation.xls

SiriusSatelliteRadioSitesforAtlanta,Boston,SanFrancisco

Atlanta,GA

WestinCenter

Long:	84-23-13.19
Lat:	33-45-39.46
AntennaHgt(AGL):	310meters
GroundElevation:	316.69meters
Sectors:	2

Sector1

Beamwidth:	180degrees
AntModel:	HMD8PV180-R05-H(Gain=14dBi)
Orientation:	0degrees
EIRPperAnt:	68dBm(includessplitter,cable,andjumperlosses)

Sector2

Beamwidth:	180degrees
AntModel:	HMD8PV180-R05-H(Gain=14dBi)
Orientation:	180degrees
EIRPperAnt:	69dBm(includessplitter,cable,andjumperlosses)

RaviniaBuilding

Long:	84-20-07.00
Lat:	33-55-16.00
AntennaHgt(AGL):	135meters
GroundElevation:	288.33meters
Sectors:	1
Beamwidth:	120degrees
AntModel:	HMD8V120-R05-H(Gain=15dBi)
Orientation:	250degrees
EIRPperAnt:	71dBm(includessplitter,cable,andjumperlosses)

1100Circle75Parkway

Long:	84-28-25.09
Lat:	33-53-59.70
AntennaHgt(AGL):	69meters
GroundElevation:	279.59meters
Sectors:	2

Sector1

Beamwidth:	90degrees
AntModel:	HMD8V90-R05-H(Gain=16dBi)
Orientation:	30degrees
EIRPperAnt:	69.2dBm(includessplitter,cable,andjumperlosses)

SiriusSatelliteRadioSitesforAtlanta,Boston,SanFrancisco

Sector2
Beamwidth: 90degrees
AntModel: HMD8V90-R05-H(Gain=16dBi)
Orientation: 150degrees
EIRPperAnt: 68.8dBm(includessplitter,cable,andjumperlosses)

PeachBuilding
Long: 84-23-25.80
Lat: 33-47-54.60
AntennaHgt(AGL): 47meters
GroundElevation: 272.38meters
Sectors: 2

Sector1
Beamwidth: 180degrees
AntModel: HMD8PV180-R05-H(Gain=14dBi)
Orientation: 0degrees
EIRPperAnt: 68.8dBm(includessplitter,cable,andjumperlosses)

Sector2
Beamwidth: 180degrees
AntModel: HMD8PV180-R05-H(Gain=14dBi)
Orientation: 180degrees
EIRPperAnt: 68.7dBm(includessplitter,cable,andjumperlosses)

Piedmont14
Long: 84-22-39.00
Lat: 33-51-07.00
AntennaHgt(AGL): 70meters
GroundElevation: 288.22meters
Sectors: 2

Sector1
Beamwidth: 90degrees
AntModel: HMD8V90-R05-H(Gain=16dBi)
Orientation: 45degrees
EIRPperAnt: 70.3dBm(includessplitter,cable,andjumperlosses)

Sector2
Beamwidth: 90degrees
AntModel: HMD8V90-R05-H(Gain=16dBi)
Orientation: 180degrees
EIRPperAnt: 70.4dBm(includessplitter,cable,andjumperlosses)

SiriusSatelliteRadioSitesforAtlanta,Boston,SanFrancisco

Boston,MA

OneBeaconStreet

Long:	71-03-41.20
Lat:	42-21-30.60
AntennaHgt(AGL):	169meters
GroundElevation:	16.7meters
Sectors:	1
Beamwidth:	360degrees(Omni)
AntModel:	HMD8V360-R05-H(Gain=11.5dBi)
Orientation:	N/A
EIRPperAnt:	69.9dBm(includessplitter,cable,andjumperlosses)

SanFrancisco,CA

SutroTower

Long:	122-27-05.00
Lat:	37-45-20.00
AntennaHgt(AGL):	116meters
GroundElevation:	245.54meters
Sectors:	1
Beamwidth:	120degrees
AntModel:	HMD8V120-R05-H(Gain=15dBi)
Orientation:	50degrees
EIRPperAnt:	72dBm(includessplitter,cable,andjumperlosses)

SanBrunoTower

Long:	122-26-03.00
Lat:	37-41-12.00
AntennaHgt(AGL):	30meters
GroundElevation:	370.88meters
Sectors:	2

Sector1

Beamwidth:	120degrees
AntModel:	HMD8V120-R05-H(Gain=15dBi)
Orientation:	25degrees
EIRPperAnt:	70dBm(includessplitter,cable,andjumperlosses)

Sector2

Beamwidth:	45degrees
AntModel:	HMD8V45-R05-H(Gain=18dBi)
Orientation:	130degrees
EIRPperAnt:	73dBm(includessplitter,cable,andjumperlosses)

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February 13, 2001

Magalie Roman Salas, Secretary
Federal Communications Commission
445 Twelfth Street, S.W.
Washington, D.C. 20554

Re: *Ex Parte* Presentation in IB Docket No. 95-91

Dear Ms. Salas:

Sirius Satellite Radio Inc. ("Sirius"), by its counsel, files this letter to clarify certain operating parameters of its terrestrial repeater in Houston, Texas. These details regarding the Houston repeater are relevant to the above-referenced rulemaking and Sirius' February 5, 2001 written *ex parte* presentation submitted to the Federal Communications Commission ("FCC" or "Commission") and licensees and lessees in the Wireless Communications Service ("WCS"), Multipoint Distribution Service ("MDS") and Instructional Television Fixed Service.[1]

In its February 5, 2001 *ex parte*, Sirius referenced its terrestrial repeater in Houston, Texas to demonstrate conclusively that high power terrestrial repeaters will not significantly interfere with digital MDS or WCS systems.[2] That terrestrial repeater, which Sirius has already deployed and tested, has the following operating parameters:

Longitude:	95-21-50.00 degrees
Latitude:	29-45-37.00 degrees
Height:	323 meters
Sectors:	2
Beam width:	90 degrees

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[1] Letter from Carl R. Frank, counsel to Sirius Satellite Radio Inc. to Magalie R. Salas, FCC (dated Feb. 5, 2001) ("*Sirius February 5, 2001 Ex Parte*").

[2] *Sirius February 5, 2001 Ex Parte*, at 2-3 and Attachments.

Model: HMD8V90-R05-H (Gain = 16 dBi)
Orientation: 175 degrees and 295 degrees
EIRP per Ant: +69.9 dBm (includes splitter, cable, and jumper losses)

The actual total power of the Houston repeater is 20 kW.[3]

Sirius respectfully submits this clarification and requests that the Commission conclude the above-referenced rulemaking.

Sincerely,

Carl R. Frank
Counsel for Sirius Satellite Radio Inc.

cc: Bruce Jacobs
Lon Levin
Paul Sinderbrand
Rosalee Chiara
Christopher Murphy
Rockie Patterson
Ronald Repasi
Thomas Tycz
Keith Larson
Ron Netro

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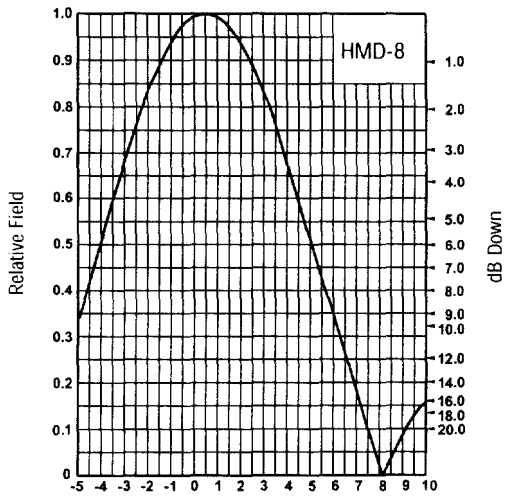
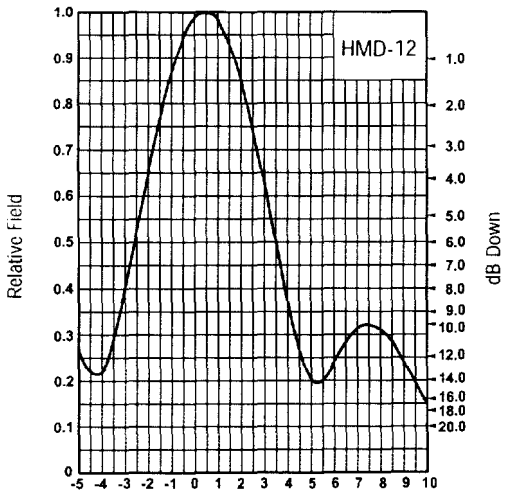
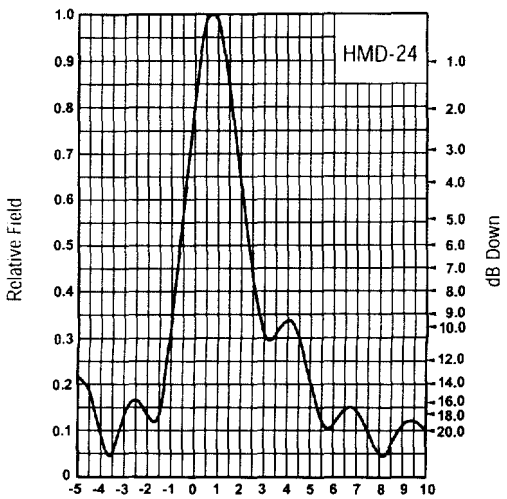
[3] The fact that the Houston repeater will have a total 20 kW power level may not have been clear in Sirius' February 5, 2001 *ex parte*. Each sector has a transmit power of just less than 10 kW. Footnote 6 of Sirius' *ex parte* accurately indicates that the Houston repeater's total power is 20 kW. *Sirius February 5, 2001 Ex Parte* at 2 ("In any event, Attachment 1 demonstrates that a 40 kW transmitter—with twice the power Sirius intends to use in Houston—would cause essentially no interference to nearby services."). Footnote 7, however, could be misinterpreted to imply a 10 kW power level. *Sirius February 5, 2001 Ex Parte* at 2. In fact, it also is true that the 20 kW repeater in Houston will not generate signal strengths above –35 dBm, again suggesting that the WCS/MDS/ITFS community's opposition to high-power DARS repeaters is both unreasoned and unsupportable.

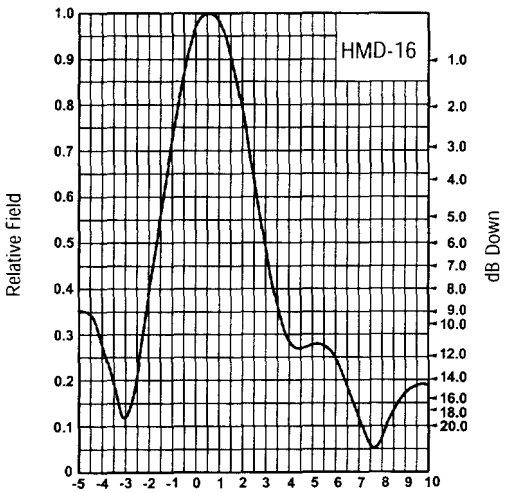
HMD Series Antennas

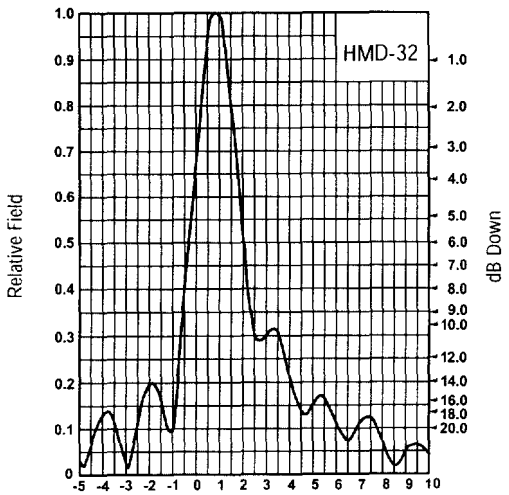
Elevation Patterns











ANDREW.

Customer Service Center - Call toll-free from: • U.S.A., Canada and Mexico 1-800-255-1479

HMD8V90-RO5-H
GAIN 16 dBi

ANGLE	dB
-88.2513	-44.7314
-83.9665	-40.3546
-81.645	-38.7108
-79.8381	-37.0156
-78.3046	-35.2894
-76.948	-33.6387
-75.7176	-32.111
-74.5833	-30.752
-73.5251	-29.5511
-72.5292	-28.4962
-71.5856	-27.5973
-70.6865	-26.8017
-69.8259	-26.1079
-68.9992	-25.4818
-68.2024	-24.913
-67.4324	-24.3937
-66.6866	-23.89
-65.9626	-23.4139
-65.2586	-22.926
-64.5729	-22.4526
-63.9041	-21.9817
-63.2508	-21.5144
-62.6119	-21.0611
-61.9866	-20.6303
-61.3738	-20.2199
-60.7727	-19.845
-60.1828	-19.5021
-59.6032	-19.2038
-59.0335	-18.9538
-58.4731	-18.7408
-57.9215	-18.5771

-57.3782	-18.4599
-56.8428	-18.3803
-56.315	-18.3371
-55.7944	-18.3299
-55.2807	-18.3587
-54.7735	-18.4091
-54.2726	-18.4818
-53.7777	-18.5697
-53.2886	-18.6735
-52.805	-18.8012
-52.3268	-18.9307
-51.8536	-19.0857
-51.3854	-19.2515
-50.922	-19.4367
-50.4631	-19.651
-50.0086	-19.8878
-49.5583	-20.1489
-49.1122	-20.4364
-48.6701	-20.7621
-48.2318	-21.1005
-47.7972	-21.4526
-47.3662	-21.8196
-46.9387	-22.1693
-46.5146	-22.5104
-46.0938	-22.8052
-45.6762	-23.0485
-45.2617	-23.2356
-44.8502	-23.3626
-44.4416	-23.4268
-44.0358	-23.4655
-43.6328	-23.4655
-43.2325	-23.4526
-42.8348	-23.4526
-42.4396	-23.4655
-42.0469	-23.5045

-41.6566	-23.5566
-41.2687	-23.6487
-40.8831	-23.7685
-40.4997	-23.9036
-40.1184	-24.0546
-39.7393	-24.2084
-39.3623	-24.3505
-38.9873	-24.4515
-38.6143	-24.4951
-38.2432	-24.437
-37.874	-24.2508
-37.5066	-23.9309
-37.1411	-23.4655
-36.7773	-22.8654
-36.4152	-22.1693
-36.0548	-21.4014
-35.696	-20.6024
-35.3388	-19.8025
-34.9832	-19.0156
-34.6292	-18.2728
-34.2767	-17.5754
-33.9256	-16.9359
-33.5759	-16.3631
-33.2277	-15.8527
-32.8809	-15.4166
-32.5354	-15.0504
-32.1912	-14.7557
-31.8484	-14.5353
-31.5068	-14.3884
-31.1664	-14.3159
-30.8273	-14.3249
-30.4893	-14.4112
-30.1526	-14.5771
-29.8169	-14.832
-29.4824	-15.179

-29.149	-15.6293
-28.8167	-16.1822
-28.4854	-16.863
-28.1552	-17.6878
-27.826	-18.6884
-27.4978	-19.905
-27.1705	-21.4218
-26.8442	-23.3371
-26.5189	-25.8827
-26.1944	-29.4217
-25.8709	-34.1993
-25.5483	-34.334
-25.2265	-29.4217
-24.9055	-25.6134
-24.5854	-22.8654
-24.2662	-20.7526
-23.9477	-19.0545
-23.63	-17.6546
-23.313	-16.4724
-22.9969	-15.4732
-22.6814	-14.6144
-22.3667	-13.8801
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-21.1148	-11.917
-20.8035	-11.6307
-20.4929	-11.4146
-20.1828	-11.2609
-19.8734	-11.1724
-19.5646	-11.141
-19.2564	-11.1598
-18.9487	-11.2228
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-18.3351	-11.46

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-16.8104	-12.1742
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-16.204	-12.2486
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-15.2978	-11.9996
-14.9967	-11.8454
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-14.3956	-11.5024
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-12.6017	-10.9459
-12.304	-11.0043
-12.0066	-11.1191
-11.7096	-11.3022
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-11.1164	-11.8931
-10.8203	-12.3201
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-7.5805	-26.3571
-7.2873	-21.4526
-6.9943	-18.1316
-6.7015	-15.6345
-6.4089	-13.6346
-6.1164	-11.9617
-5.8241	-10.5273
-5.532	-9.2739
-5.24	-8.1676
-4.9482	-7.1785
-4.6564	-6.2887
-4.3648	-5.485
-4.0733	-4.7584
-3.7819	-4.0991
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-3.1994	-2.9626
-2.9083	-2.4756
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-1.7445	-1.0034
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-1.1629	-0.5254
-0.8722	-0.3455
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-0.2907	-0.0996
0	-0.0313
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0.5814	-0.0035
0.8722	-0.0427
1.1629	-0.1163
1.4537	-0.2235
1.7445	-0.3663
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2.3263	-0.7536

2.6173	-1.0005
2.9083	-1.2818
3.1994	-1.5996
3.4906	-1.9556
3.7819	-2.3495
4.0733	-2.7849
4.3648	-3.2621
4.6564	-3.7846
4.9482	-4.3563
5.24	-4.9821
5.532	-5.6649
5.8241	-6.4114
6.1164	-7.2302
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6.7015	-9.1335
6.9943	-10.2431
7.2873	-11.4926
7.5805	-12.9063
7.8738	-14.5261
8.1674	-16.409
8.4612	-18.5992
8.7552	-21.0906
9.0495	-23.4655
9.344	-24.4225
9.6387	-23.223
9.9337	-21.1996
10.229	-19.3235
10.5245	-17.768
10.8203	-16.5188
11.1164	-15.5093
11.4129	-14.7084
11.7096	-14.0667
12.0066	-13.5639
12.304	-13.1792
12.6017	-12.8948

12.8998	-12.7015
13.1982	-12.5786
13.497	-12.5197
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14.6959	-12.6231
14.9967	-12.6529
15.2978	-12.6492
15.5994	-12.6008
15.9015	-12.494
16.204	-12.3273
16.5069	-12.111
16.8104	-11.8488
17.1143	-11.5581
17.4187	-11.2513
17.7237	-10.9428
18.0291	-10.6478
18.3351	-10.374
18.6416	-10.1308
18.9487	-9.9215
19.2564	-9.7516
19.5646	-9.6245
19.8734	-9.5407
20.1828	-9.5043
20.4929	-9.5121
20.8035	-9.5668
21.1148	-9.6719
21.4268	-9.824
21.7394	-10.0283
22.0527	-10.2884
22.3667	-10.6006
22.6814	-10.9766
22.9969	-11.4146
23.313	-11.9239

23.63	-12.5124
23.9477	-13.1872
24.2662	-13.962
24.5854	-14.856
24.9055	-15.8905
25.2265	-17.0899
25.5483	-18.4964
25.8709	-20.1578
26.1944	-22.1581
26.5189	-24.5683
26.8442	-27.3306
27.1705	-29.6297
27.4978	-29.5251
27.826	-27.4118
28.1552	-25.177
28.4854	-23.3498
28.8167	-21.9273
29.149	-20.8192
29.4824	-19.9826
29.8169	-19.3476
30.1526	-18.8924
30.4893	-18.5845
30.8273	-18.4091
31.1664	-18.3515
31.5068	-18.4091
31.8484	-18.555
32.1912	-18.8012
32.5354	-19.1249
32.8809	-19.535
33.2277	-20.0087
33.5759	-20.5559
33.9256	-21.1598
34.2767	-21.8196
34.6292	-22.5104
34.9832	-23.223

35.3388	-23.9309
35.696	-24.583
36.0548	-25.1141
36.4152	-25.4981
36.7773	-25.6632
37.1411	-25.5968
37.5066	-25.3361
37.874	-24.8978
38.2432	-24.3937
38.6143	-23.8358
38.9873	-23.2989
39.3623	-22.7932
39.7393	-22.3495
40.1184	-21.9708
40.4997	-21.6709
40.8831	-21.4526
41.2687	-21.31
41.6566	-21.2396
42.0469	-21.2597
42.4396	-21.3505
42.8348	-21.5248
43.2325	-21.7662
43.6328	-22.0695
44.0358	-22.4411
44.4416	-22.8775
44.8502	-23.3626
45.2617	-23.89
45.6762	-24.4515
46.0938	-25.0207
46.5146	-25.6134
46.9387	-26.1961
47.3662	-26.7637
47.7972	-27.2903
48.2318	-27.7868
48.6701	-28.201

49.1122	-28.5194
49.5583	-28.7541
50.0086	-28.8499
50.4631	-28.8258
50.922	-28.683
51.3854	-28.4502
51.8536	-28.1565
52.3268	-27.8295
52.805	-27.4938
53.2886	-27.1705
53.7777	-26.8972
54.2726	-26.6884
54.7735	-26.5212
55.2807	-26.4479
55.7944	-26.4114
56.315	-26.4479
56.8428	-26.5396
57.3782	-26.6884
57.9215	-26.8398
58.4731	-26.9938
59.0335	-27.1507
59.6032	-27.2702
60.1828	-27.3509
60.7727	-27.3711
61.3738	-27.3914
61.9866	-27.3711
62.6119	-27.3711
63.2508	-27.3914
63.9041	-27.4732
64.5729	-27.6181
65.2586	-27.8724
65.9626	-28.2234
66.6866	-28.683
67.4324	-29.2688
68.2024	-29.9788

68.9992	-30.8424
69.8259	-31.8013
70.6865	-32.8033
71.5856	-33.8074
72.5292	-34.6566
73.5251	-35.189
74.5833	-35.2894
75.7176	-35.1392
76.948	-34.8946
78.3046	-34.6566
79.8381	-34.6097
81.645	-34.8946
83.9665	-35.7562
88.2513	-40.0873