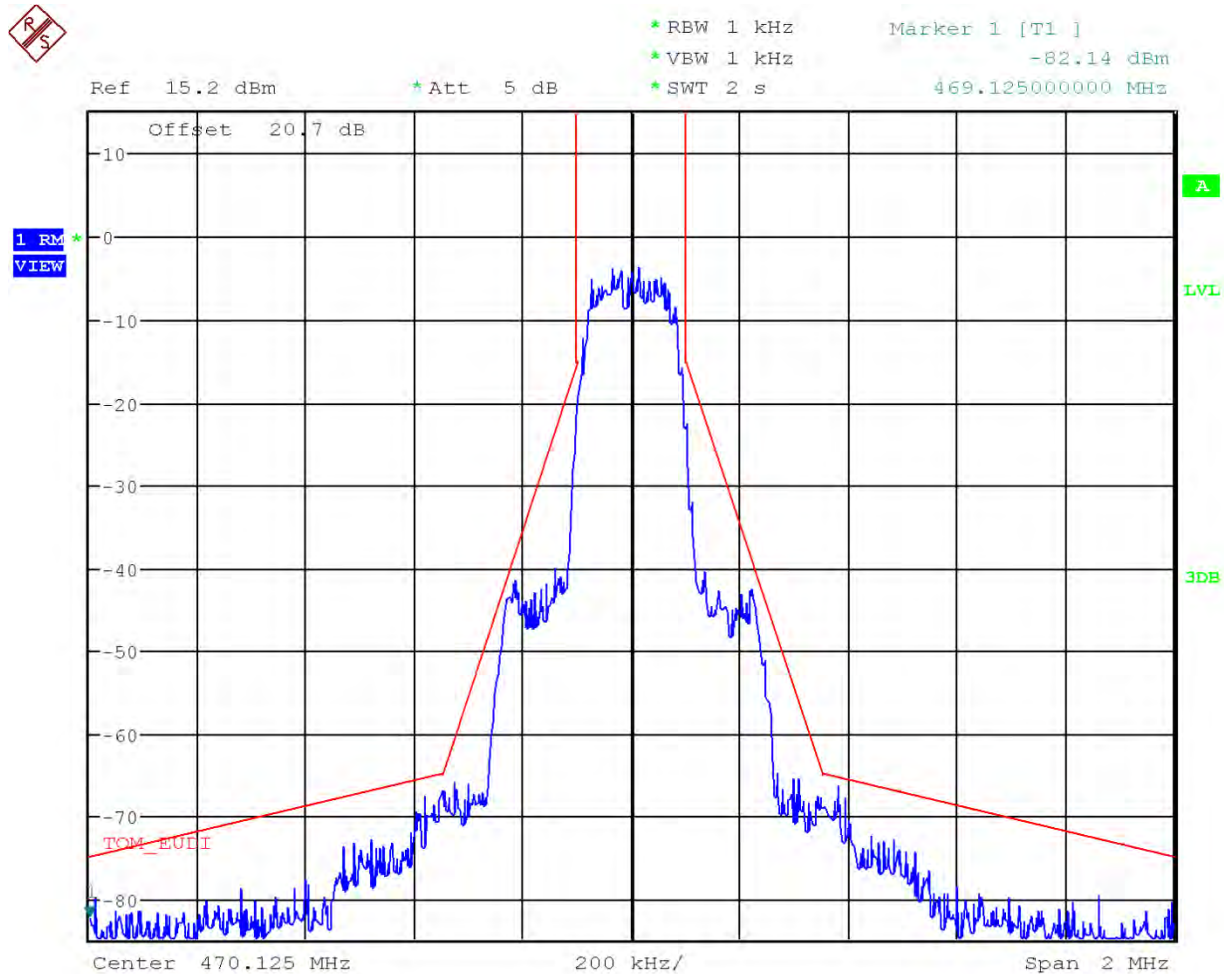


Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
Serial Number: TU162040097
Test Description: RSS-210 Annex G Necessary Bandwidth

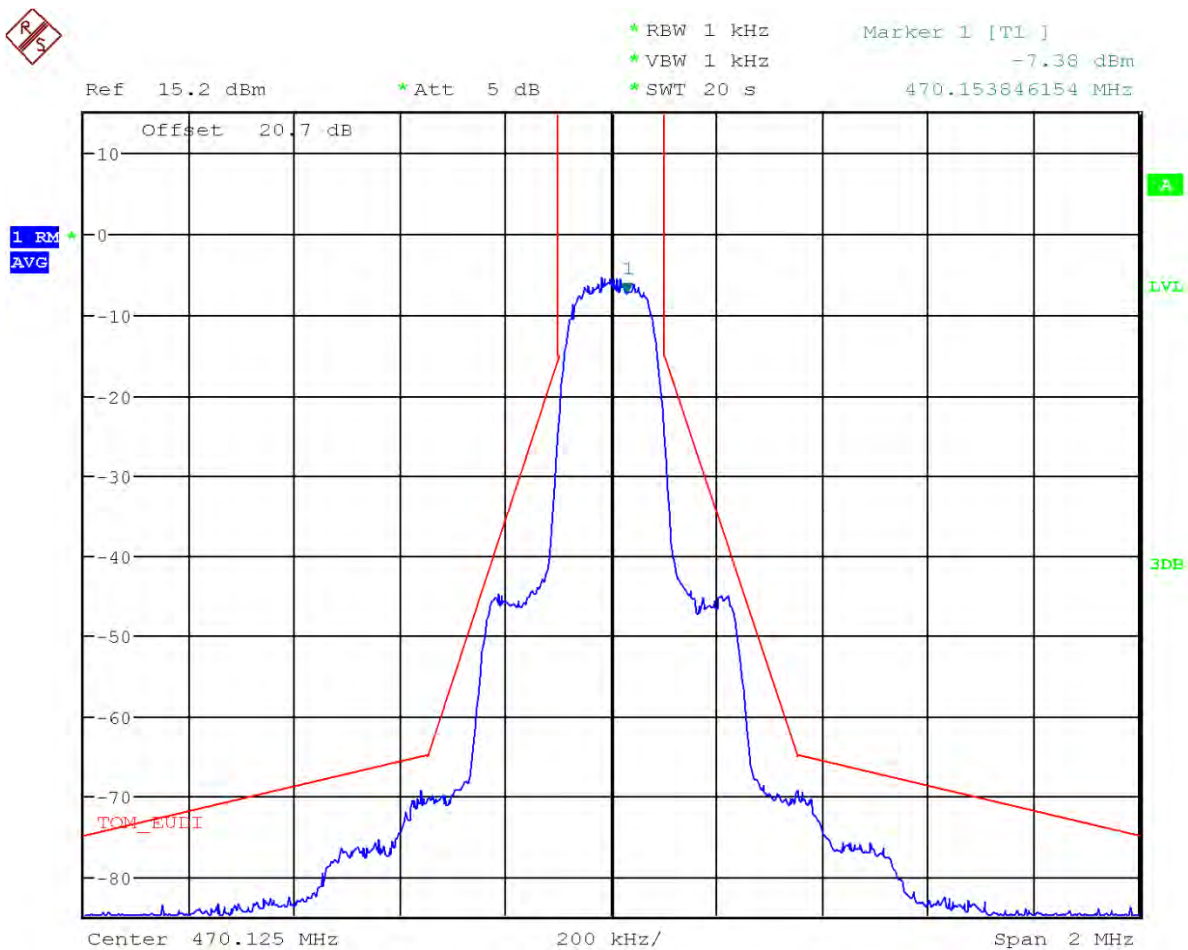
Operating Conditions: 470.125MHz (Low Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 14, 2016 15:34:54 PM



Test Information

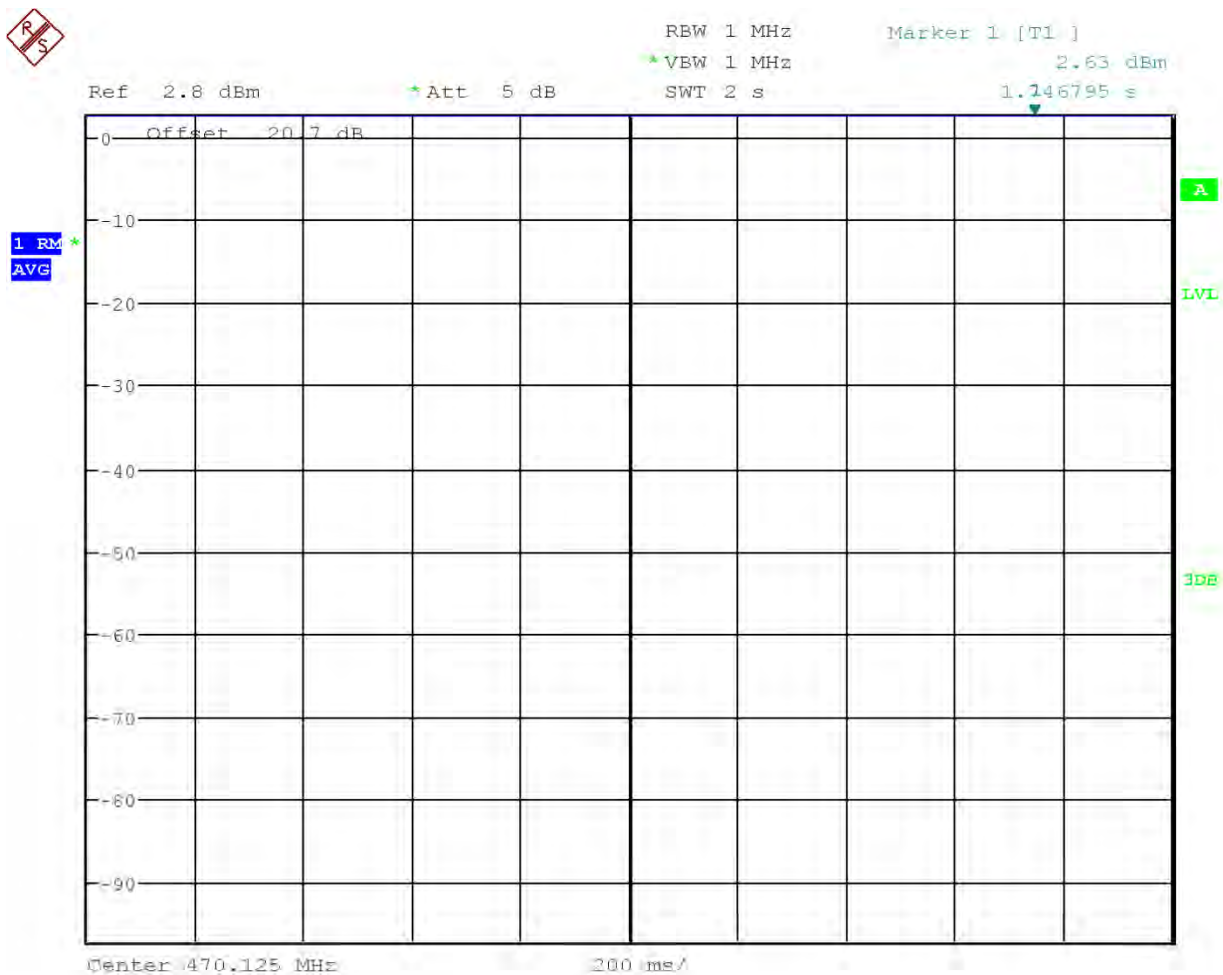
EUT Name:	AD1 G56 #80 (For G55 Band)
Serial Number:	TU162040097
Test Description:	RSS-210 Annex G Necessary Bandwidth Noise Floor Reference
Operating Conditions:	470.125MHz (Low Frequency) at 35mW in Normal Mode
Operator Name:	Alex Stelmaszczyk
Comment:	R & S FSU Spectrum Analyzer
Test Date:	November 14, 2016 15:37:39 PM



Test Information

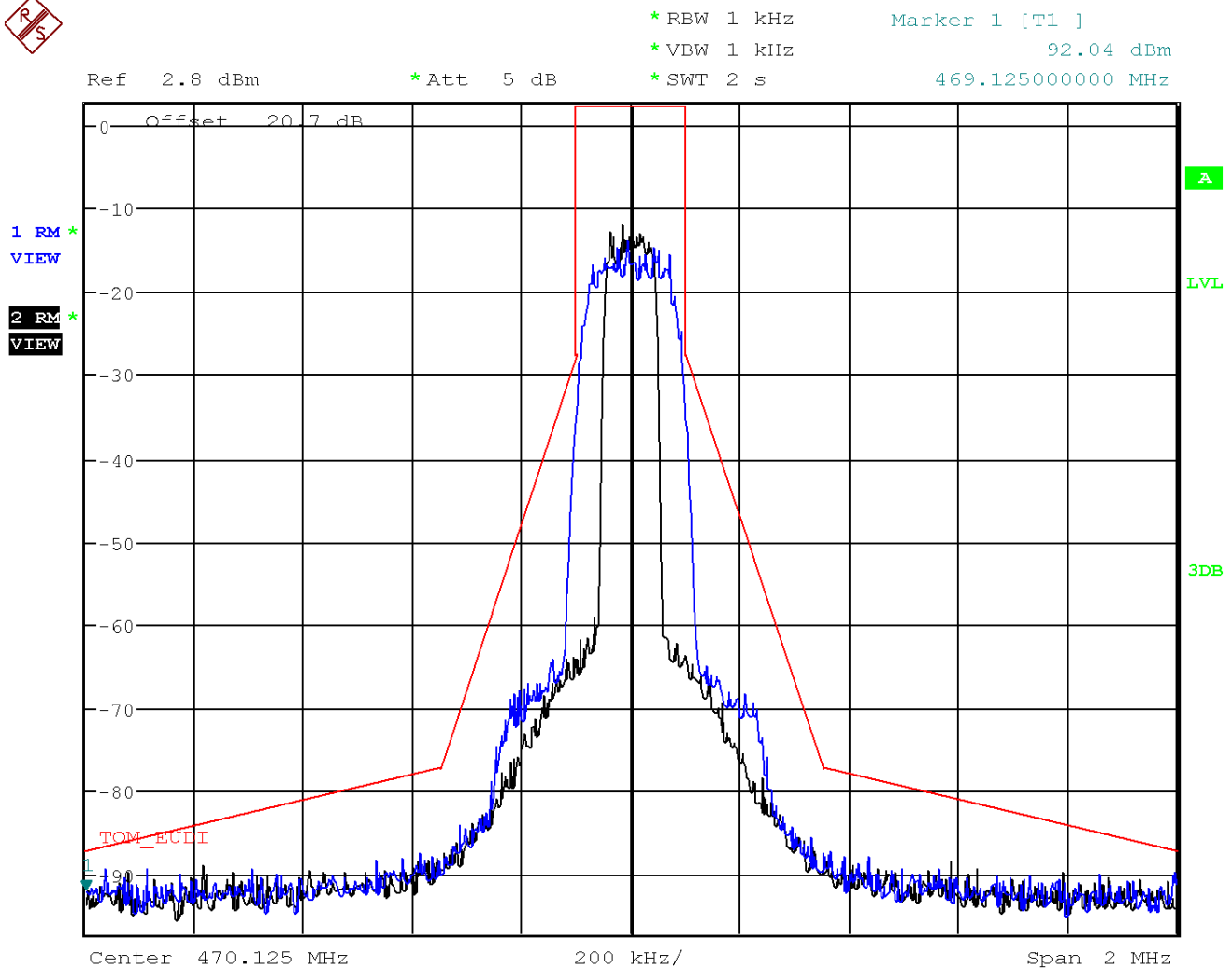
EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 470.125MHz (Low Frequency) at 2mW in Normal Mode

Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 17:04:36 PM



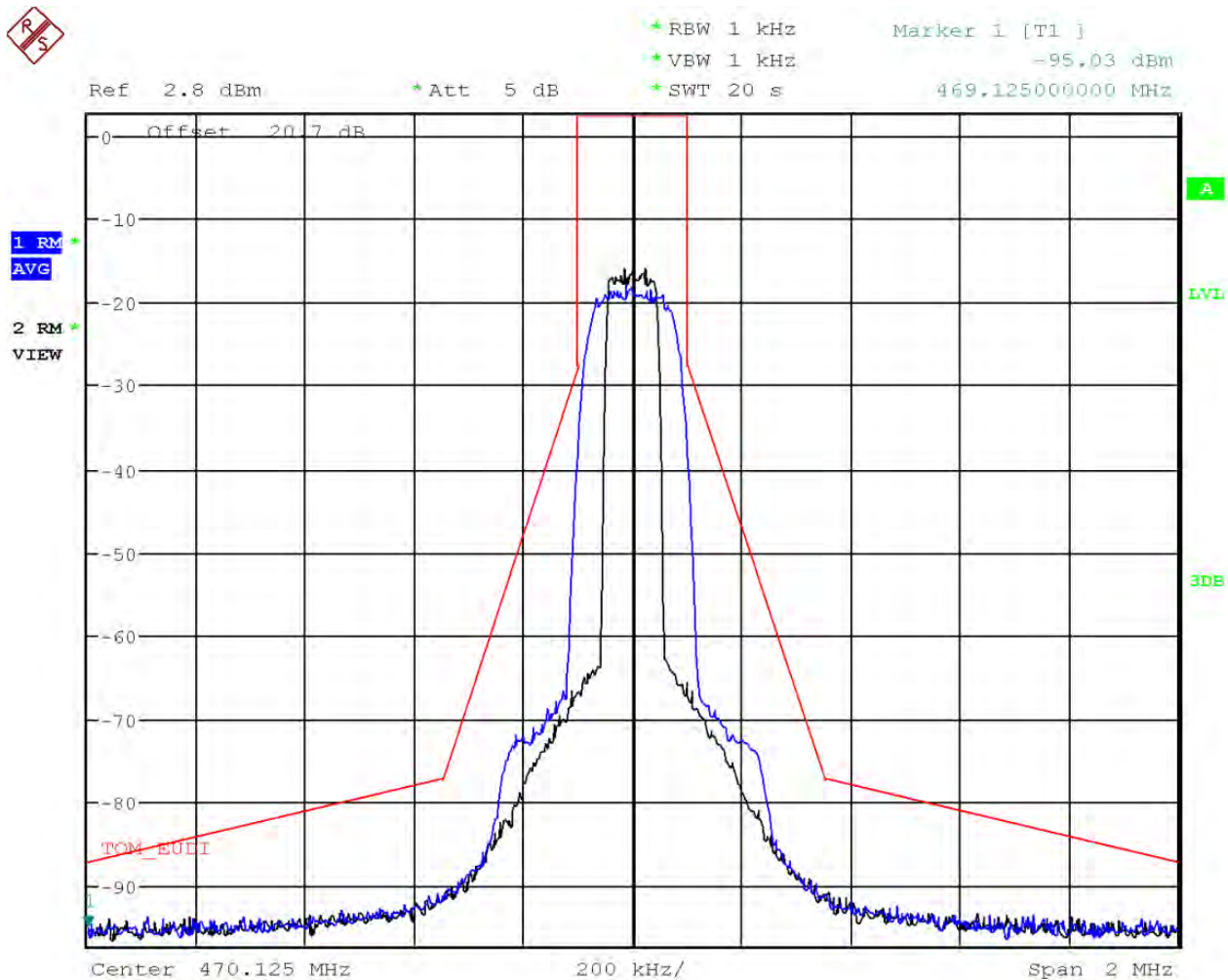
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
Serial Number: TU162040097
Test Description: RSS-210 Annex G Necessary Bandwidth
Operating Conditions: 470.125MHz (Low Frequency) at 2mW in Normal Mode
(Blue Trace) and High Density Mode (Black Trace)
(Channel Bandwidth Options)
Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 14, 2016 17:07:57 PM



Test Information

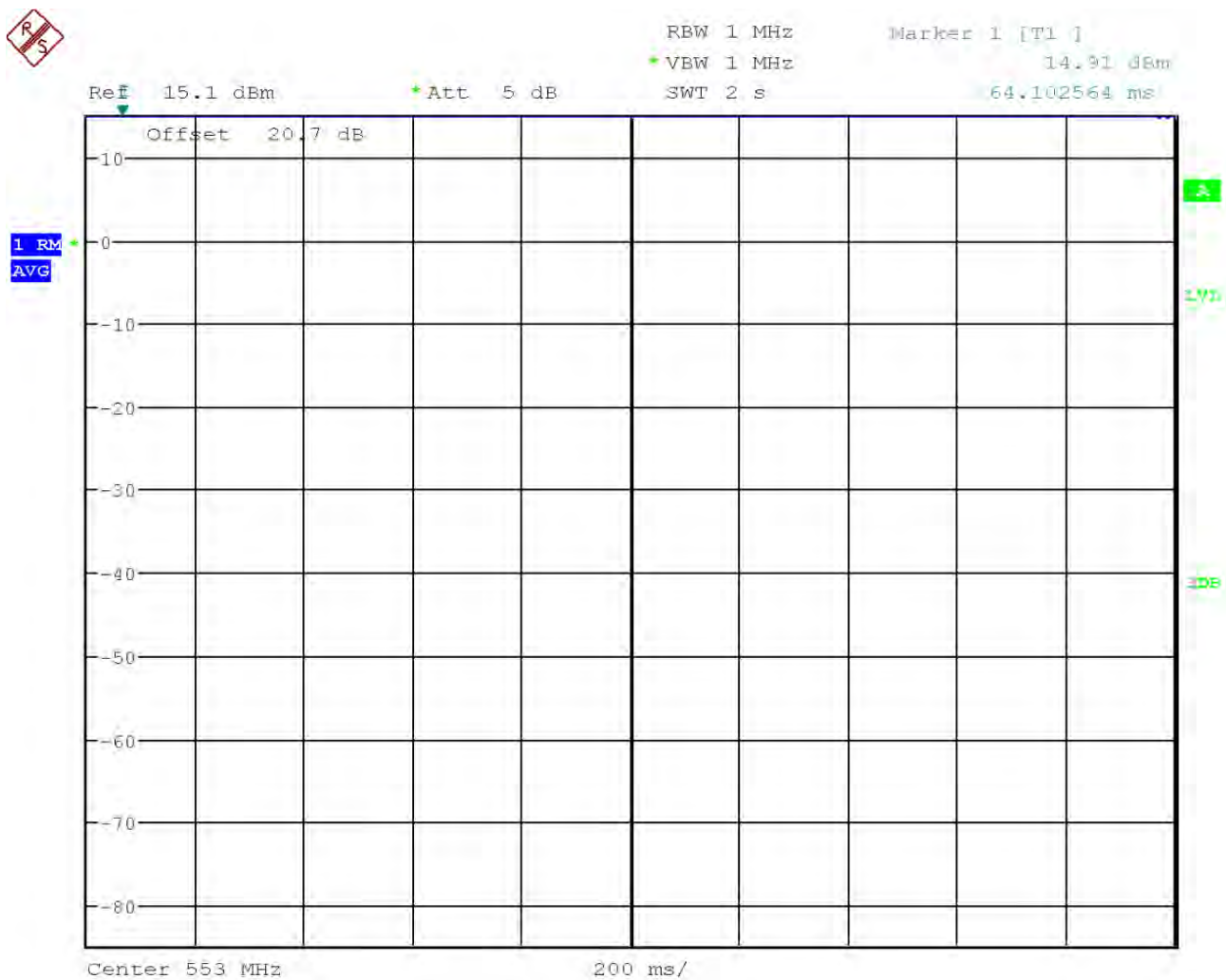
EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 470.125MHz (Low Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 17:13:44 PM



Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 553.000MHz (Mid Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 15:42:19 PM

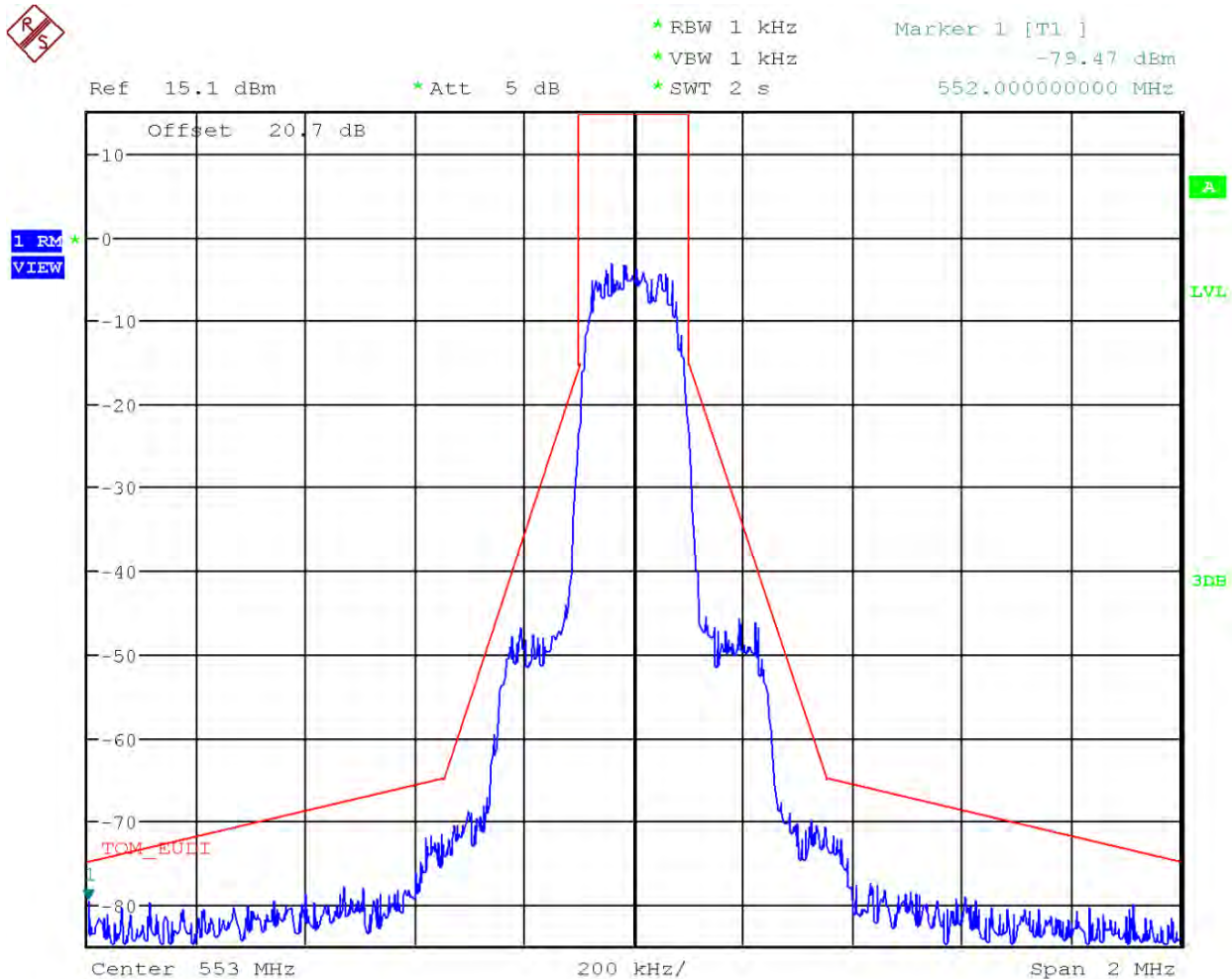


Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth

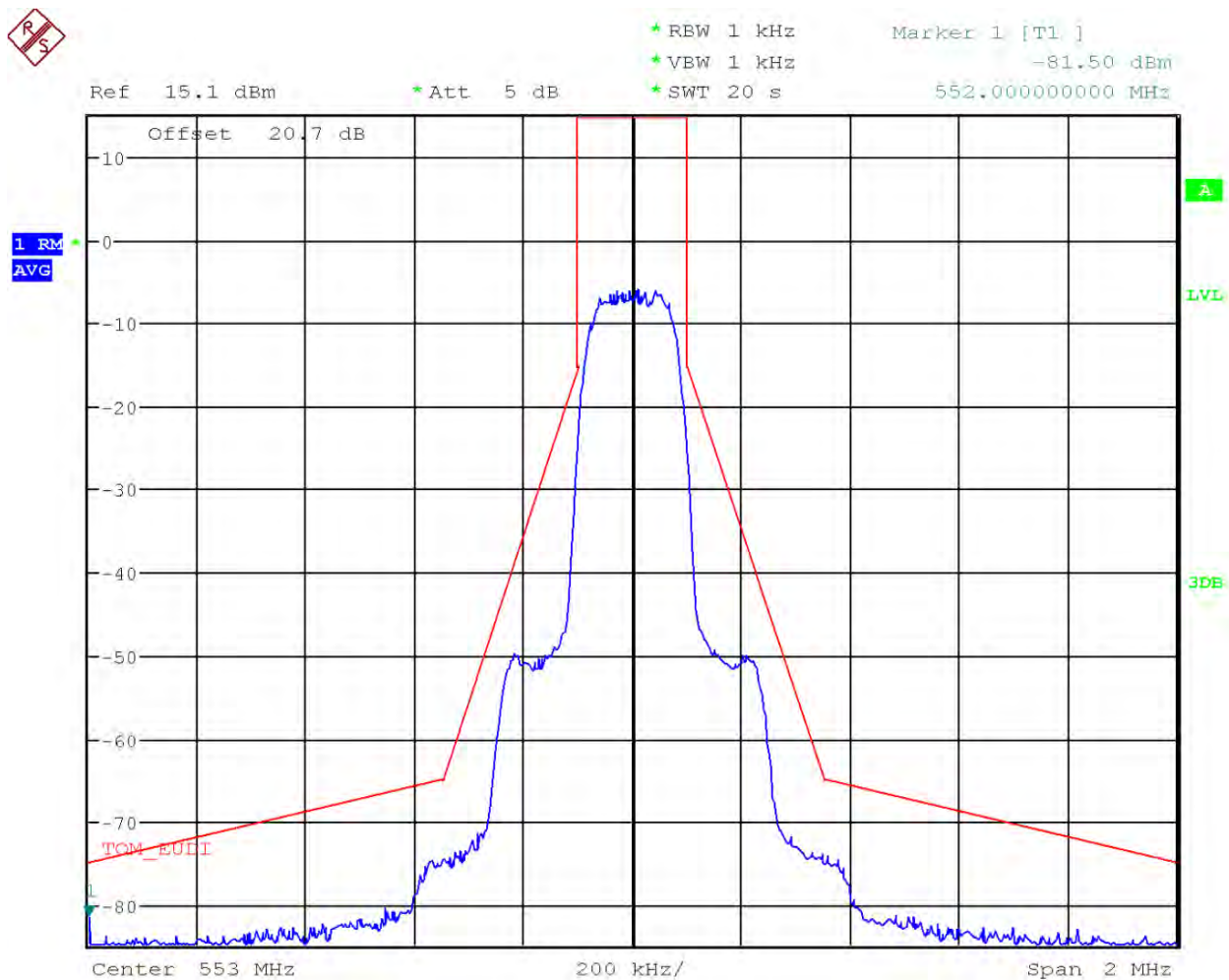
Operating Conditions: 553.000MHz (Mid Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 15:44:52 PM



Test Information

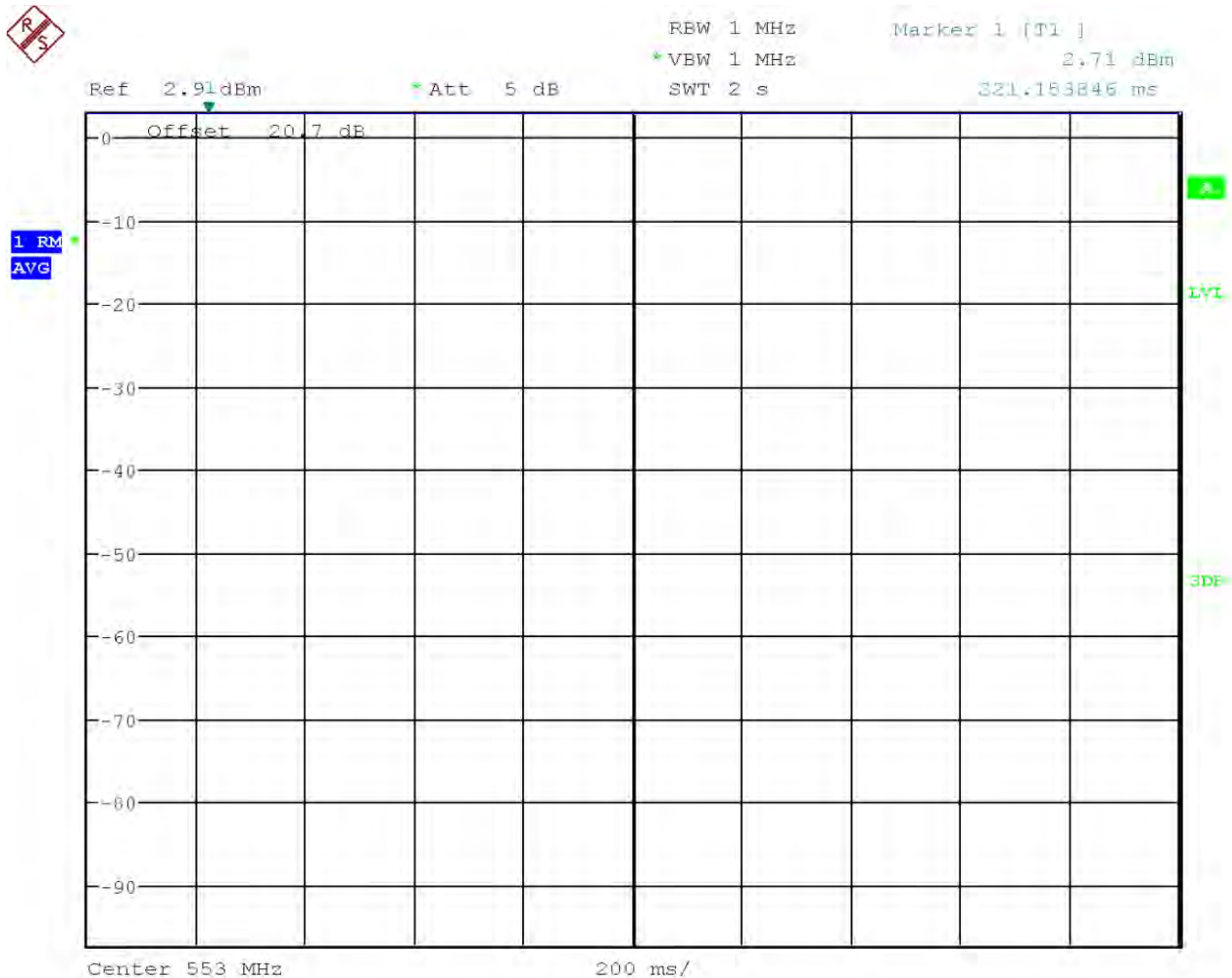
EUT Name:	AD1 G56 #80 (For G55 Band)
Serial Number:	TU162040097
Test Description:	RSS-210 Annex G Necessary Bandwidth Noise Floor Reference
Operating Conditions:	553.000MHz (Mid Frequency) at 35mW in Normal Mode
Operator Name:	Alex Stelmaszczyk
Comment:	R & S FSU Spectrum Analyzer
Test Date:	November 14, 2016 15:47:14 PM



Test Information

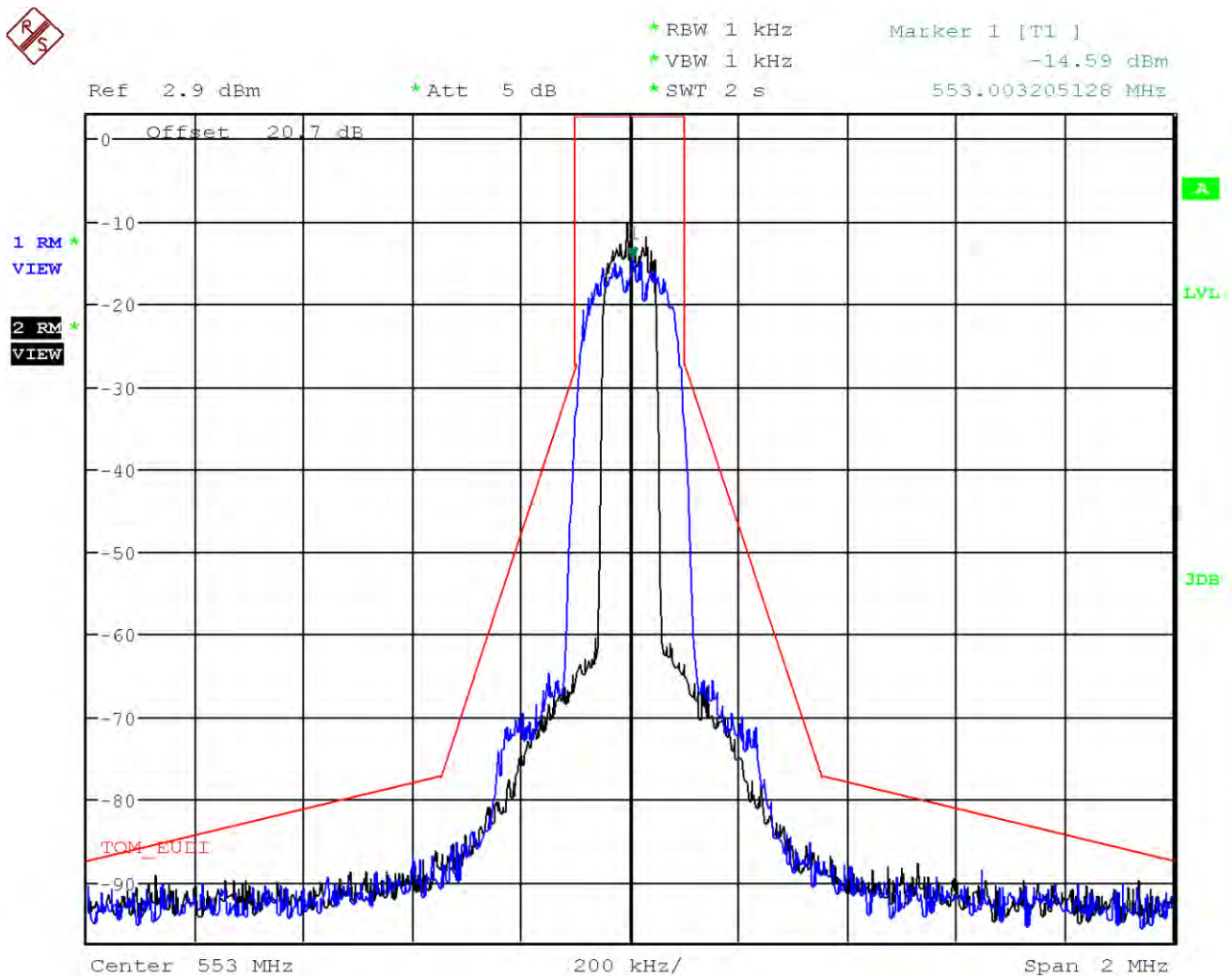
EUT Name: AD1 G56 #80 (For G55 Band)
Serial Number: TU162040097
Test Description: RSS-210 Annex G Necessary Bandwidth
Carrier Power Reference
Operating Conditions: 553.000MHz (Mid Frequency) at 2mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 14, 2016 16:50:31 PM



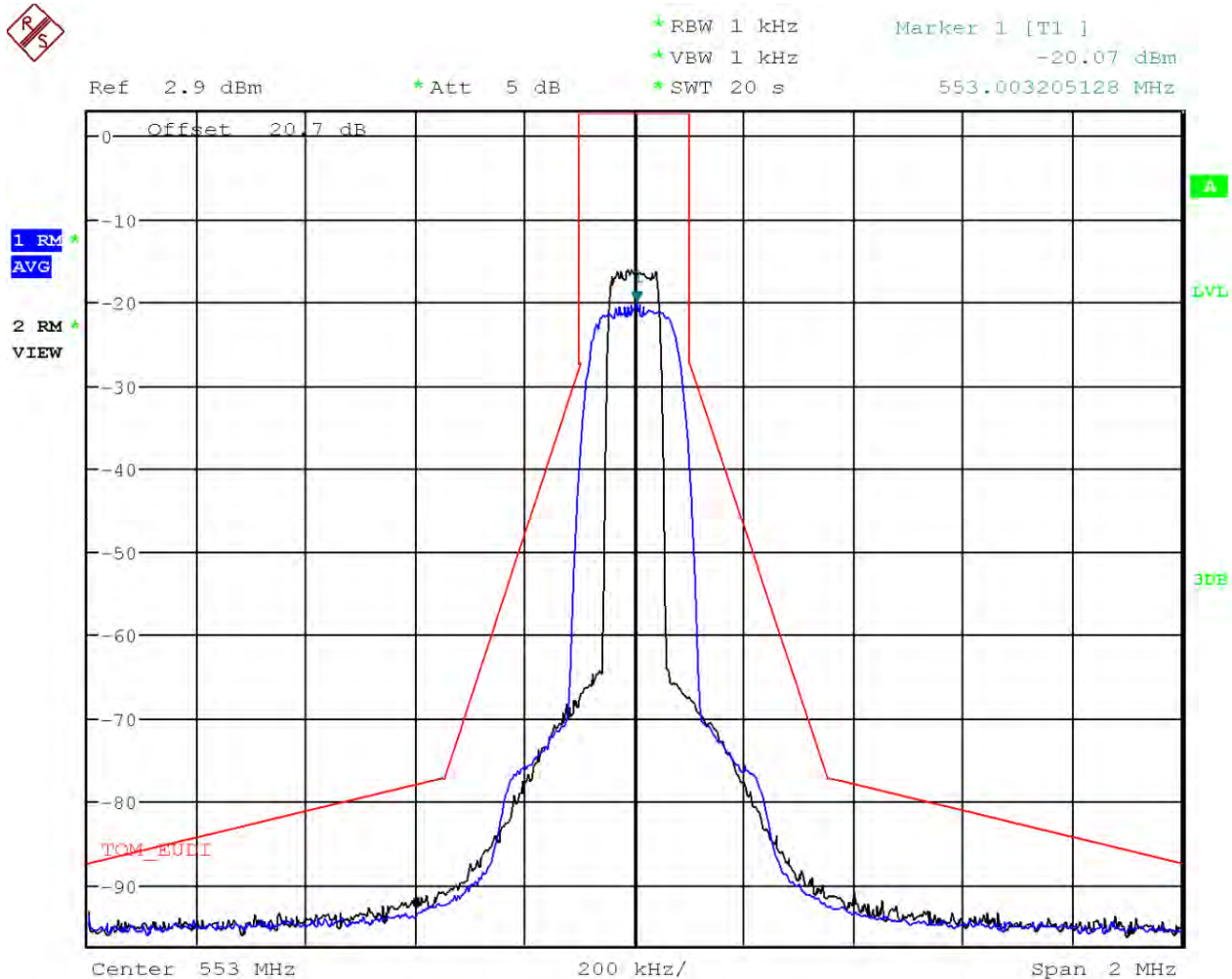
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 553.000MHz (Mid Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 16:54:08 PM



Test Information

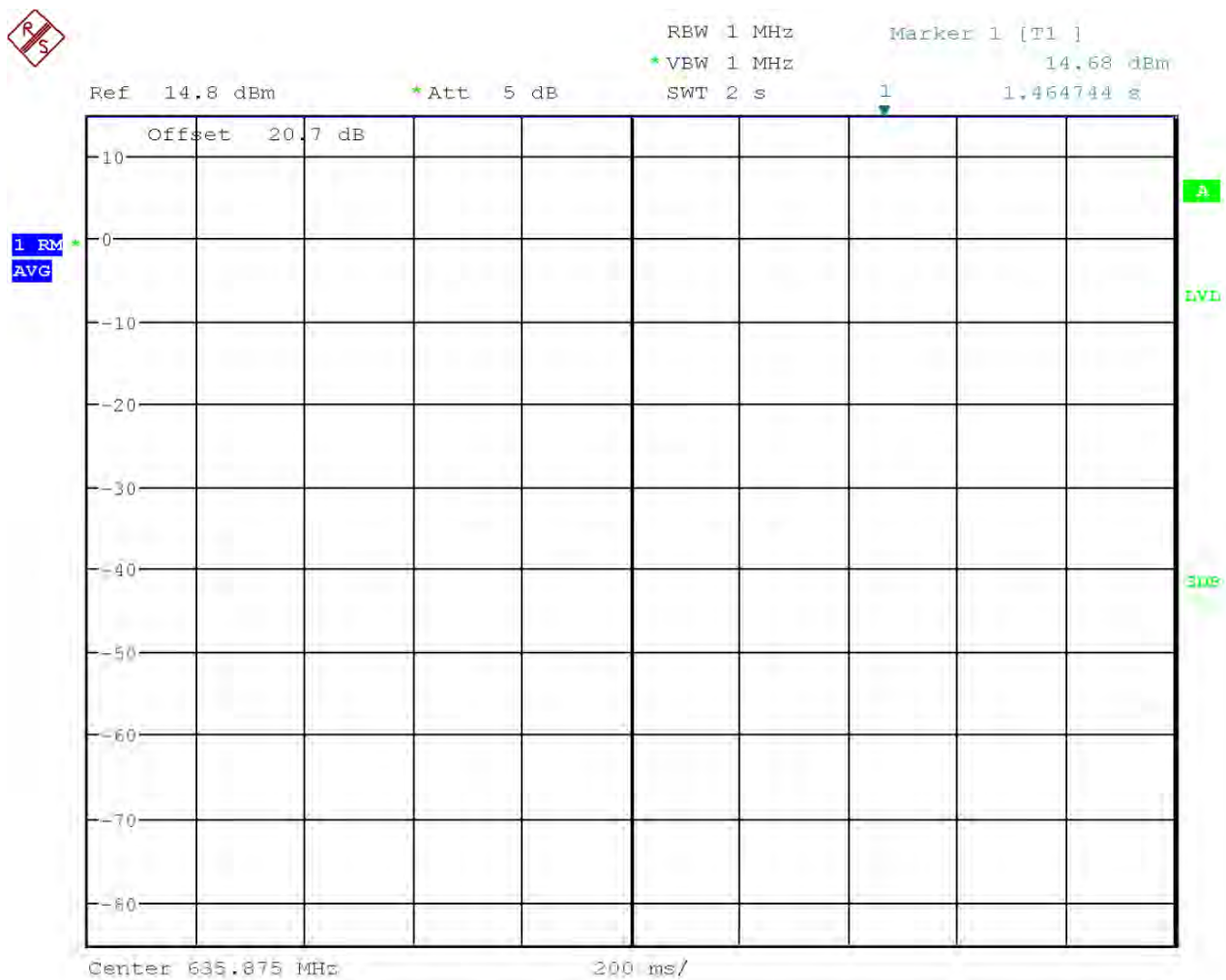
EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 553.000MHz (Mid Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 17:00:09 PM



Test Information

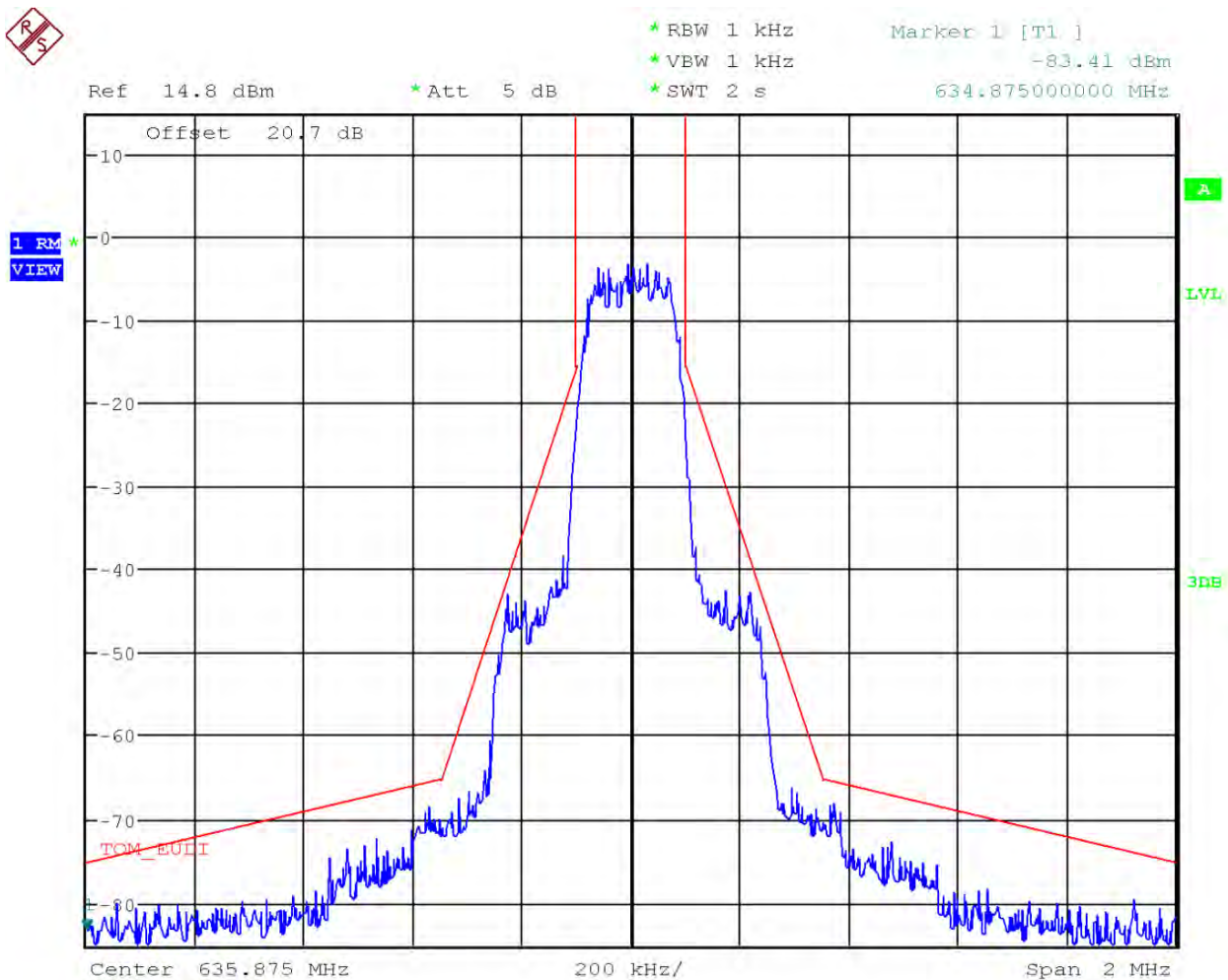
EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 635.875MHz (High Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 15:54:05 PM



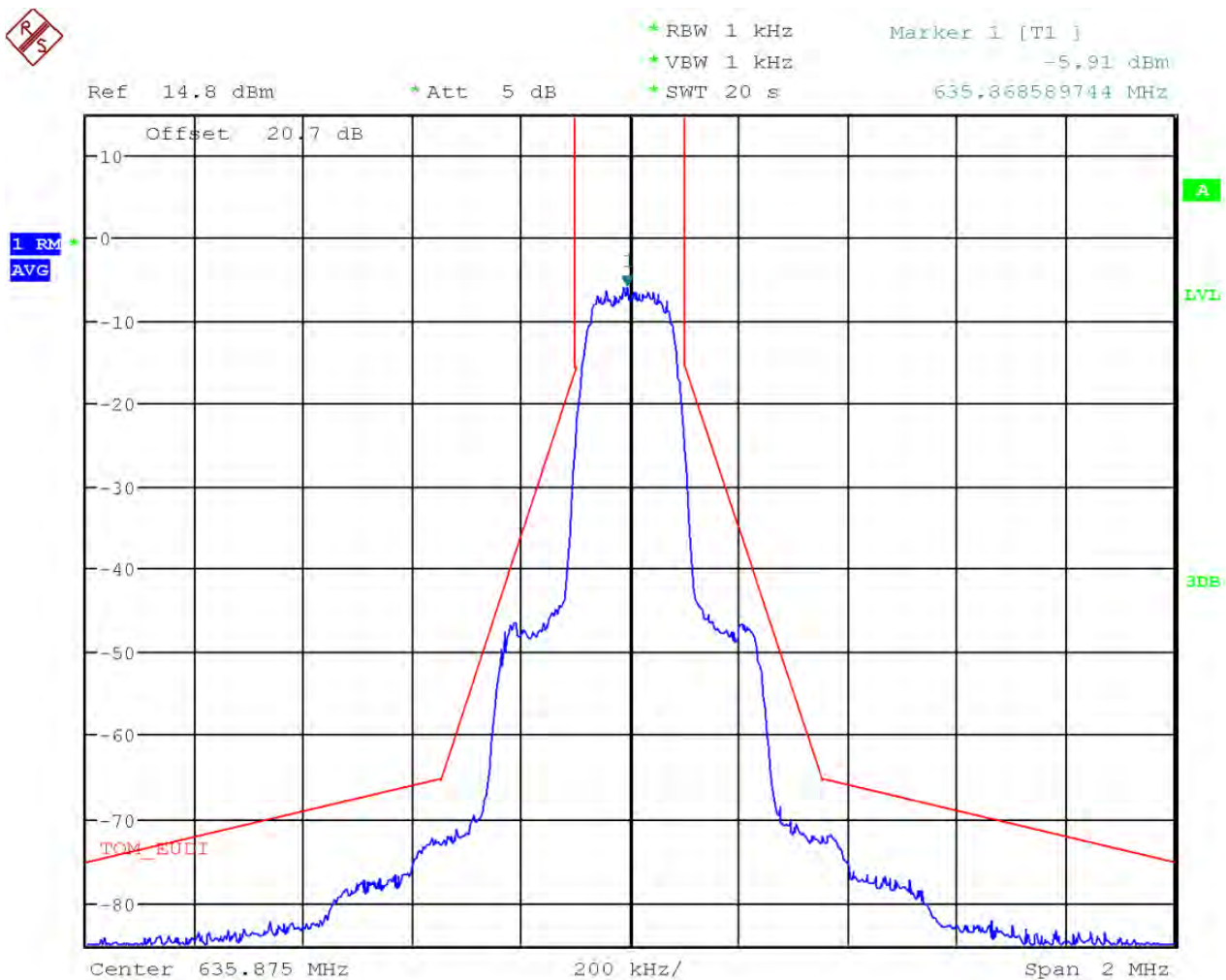
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 635.875MHz (High Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 15:55:56 PM



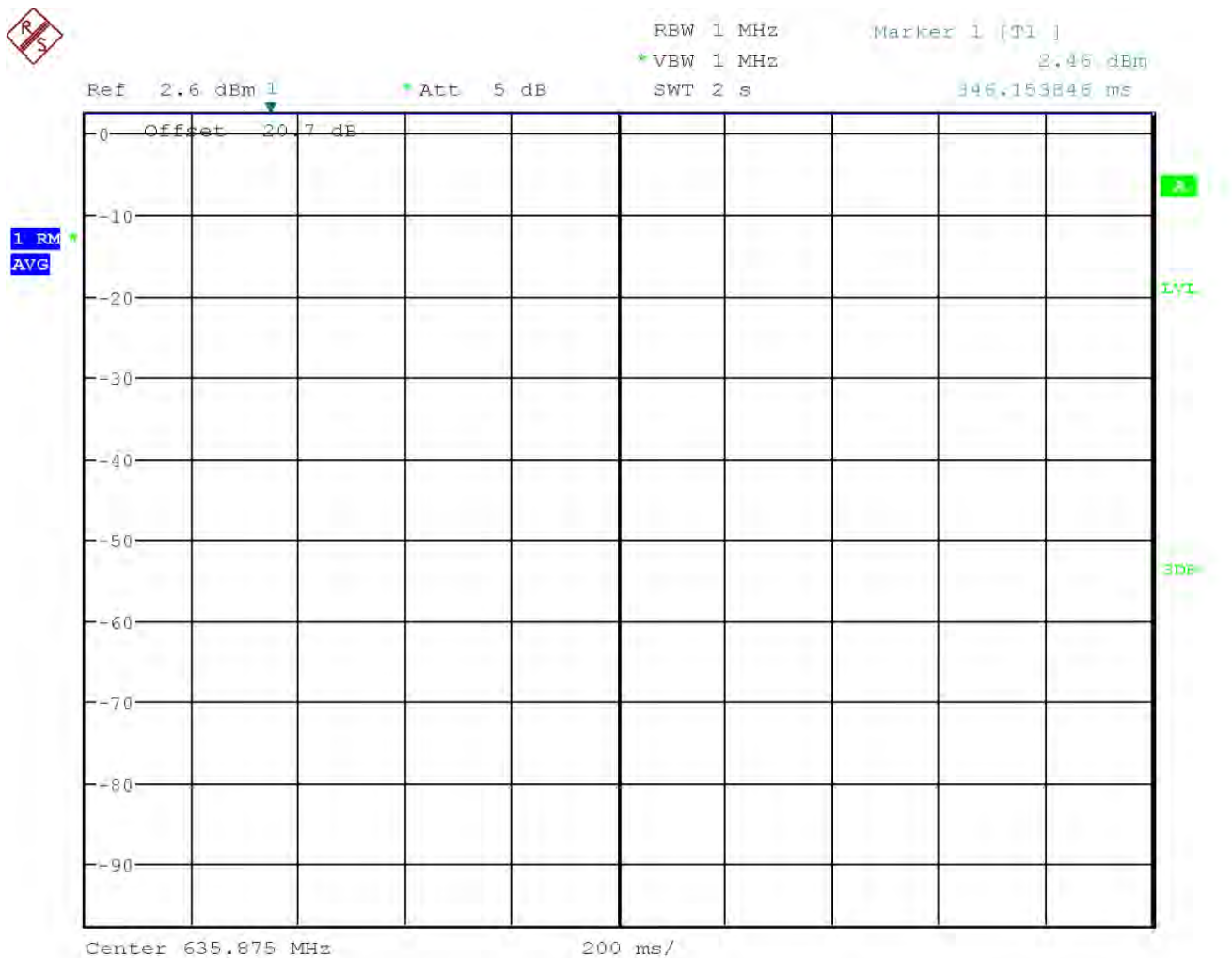
Test Information

EUT Name:	AD1 G56 #80 (For G55 Band)
Serial Number:	TU162040097
Test Description:	RSS-210 Annex G Necessary Bandwidth Noise Floor Reference
Operating Conditions:	635.875MHz (High Frequency) at 35mW in Normal Mode
Operator Name:	Alex Stelmaszczyk
Comment:	R & S FSU Spectrum Analyzer
Test Date:	November 14, 2016 15:58:25 PM



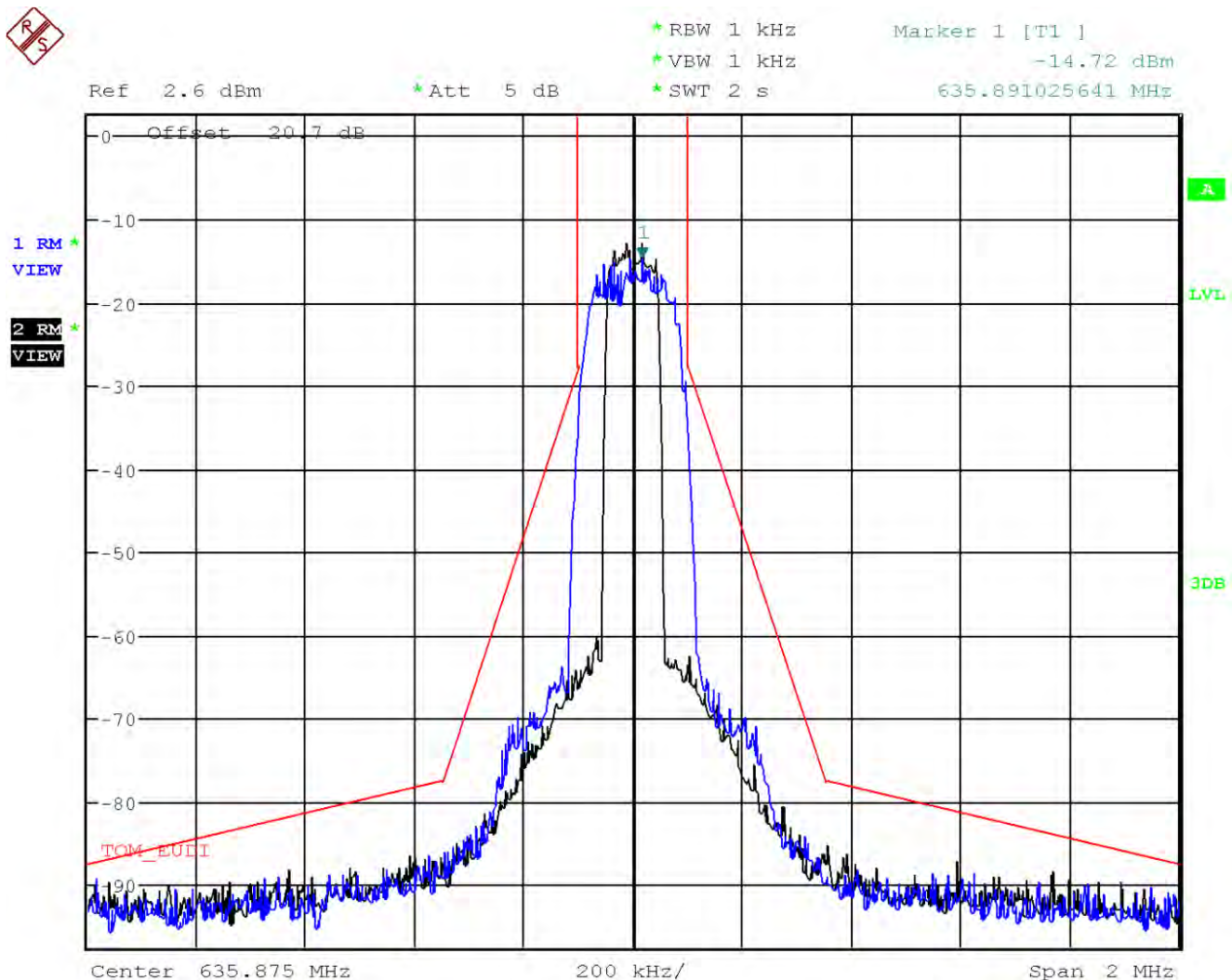
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 635.875MHz (High Frequency) at 2mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 16:24:15 PM



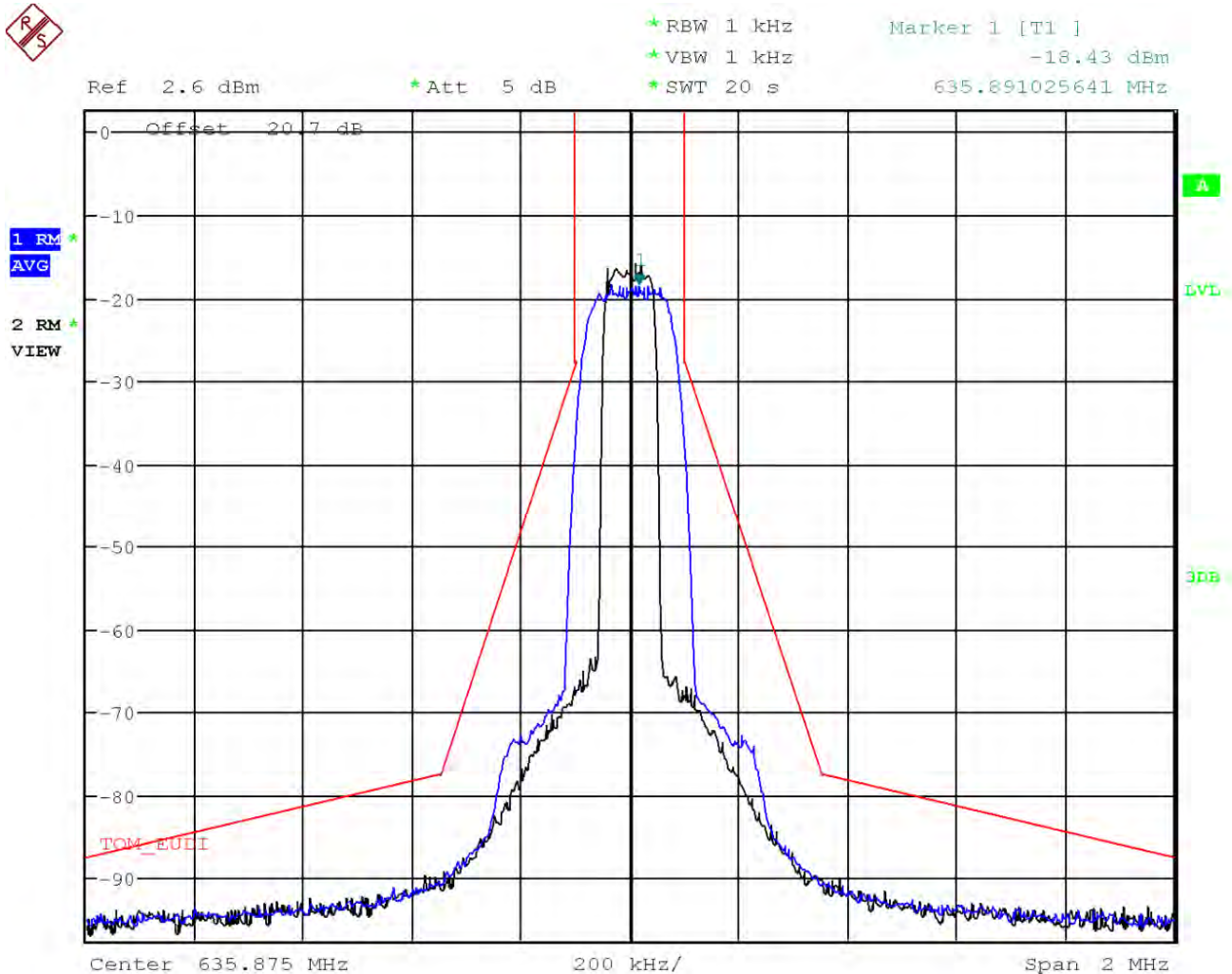
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 635.875MHz (High Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 16:38:37 PM



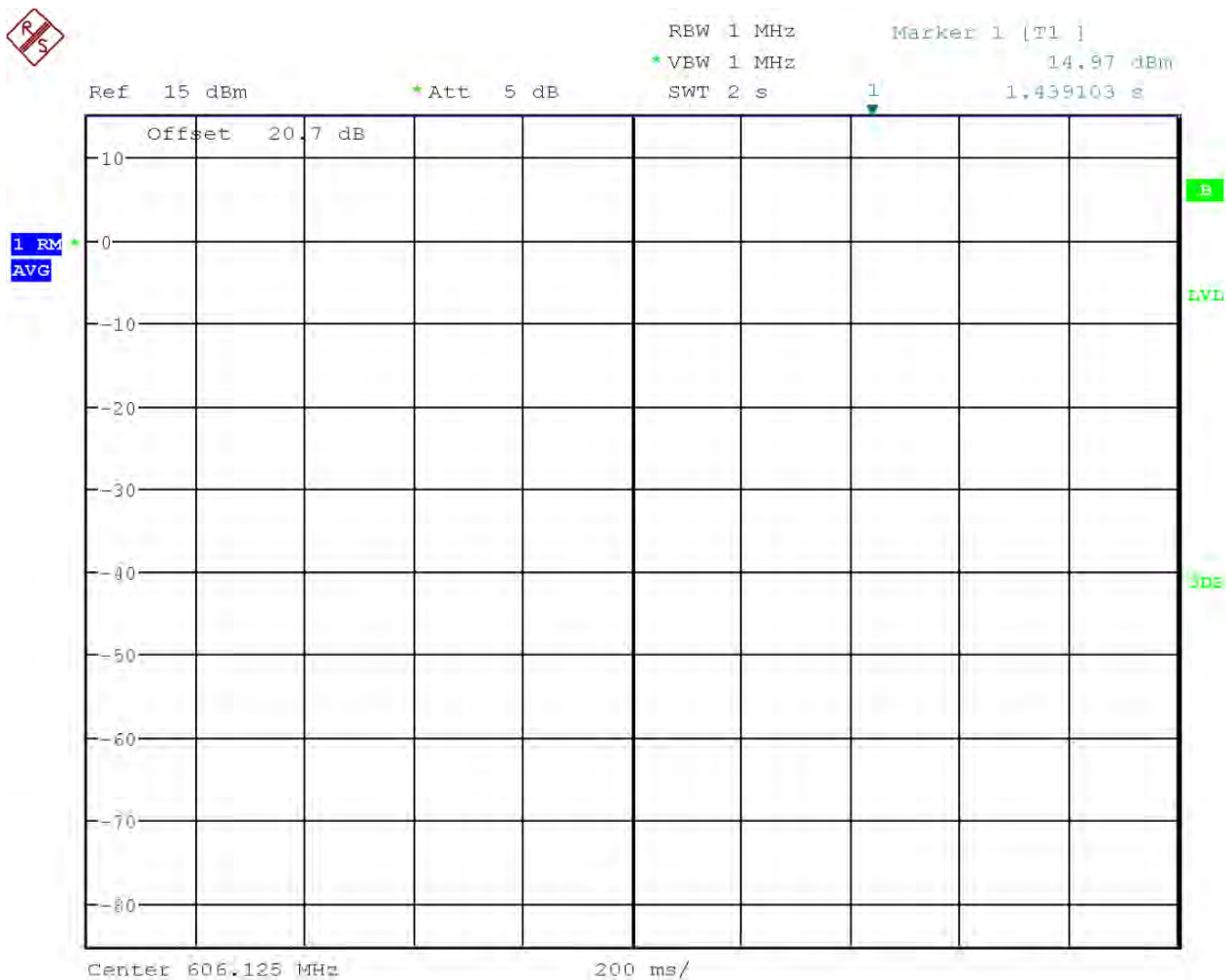
Test Information

EUT Name: AD1 G56 #80 (For G55 Band)
 Serial Number: TU162040097
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 635.875MHz (Low Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 14, 2016 17:13:44 PM



Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 606.125MHz (Low Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:39:18 PM

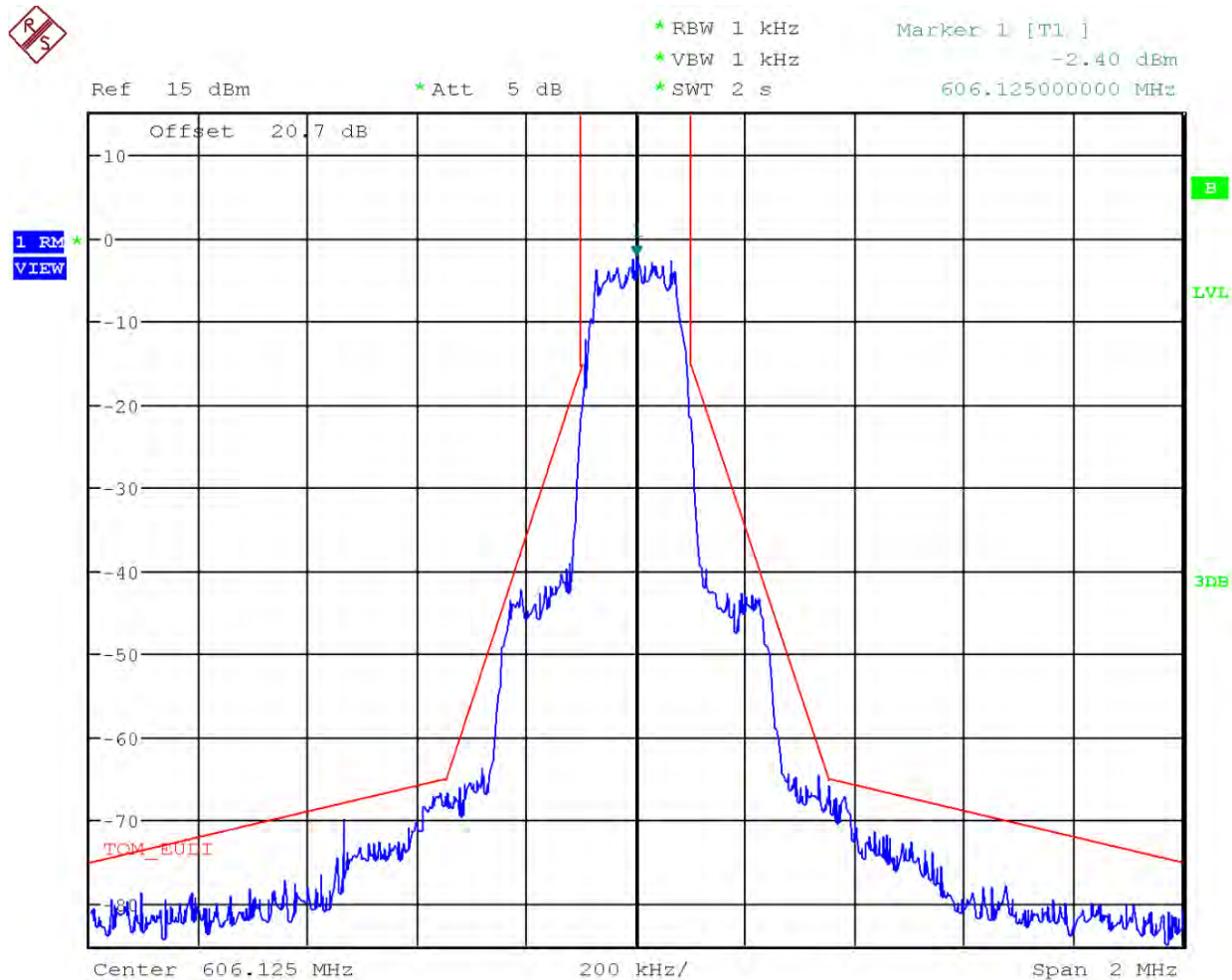


Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth

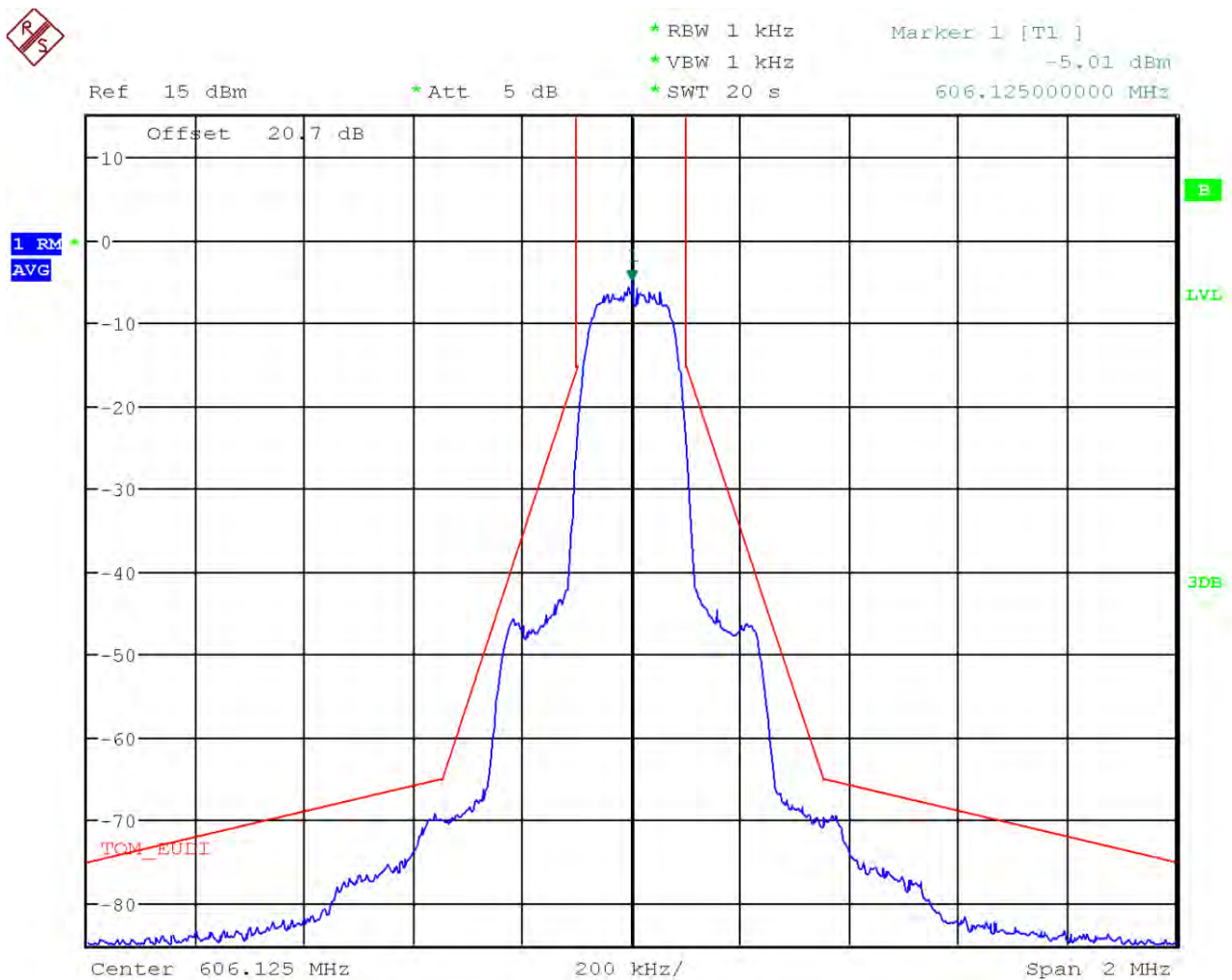
Operating Conditions: 606.125MHz (Low Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 15:42:05 PM



Test Information

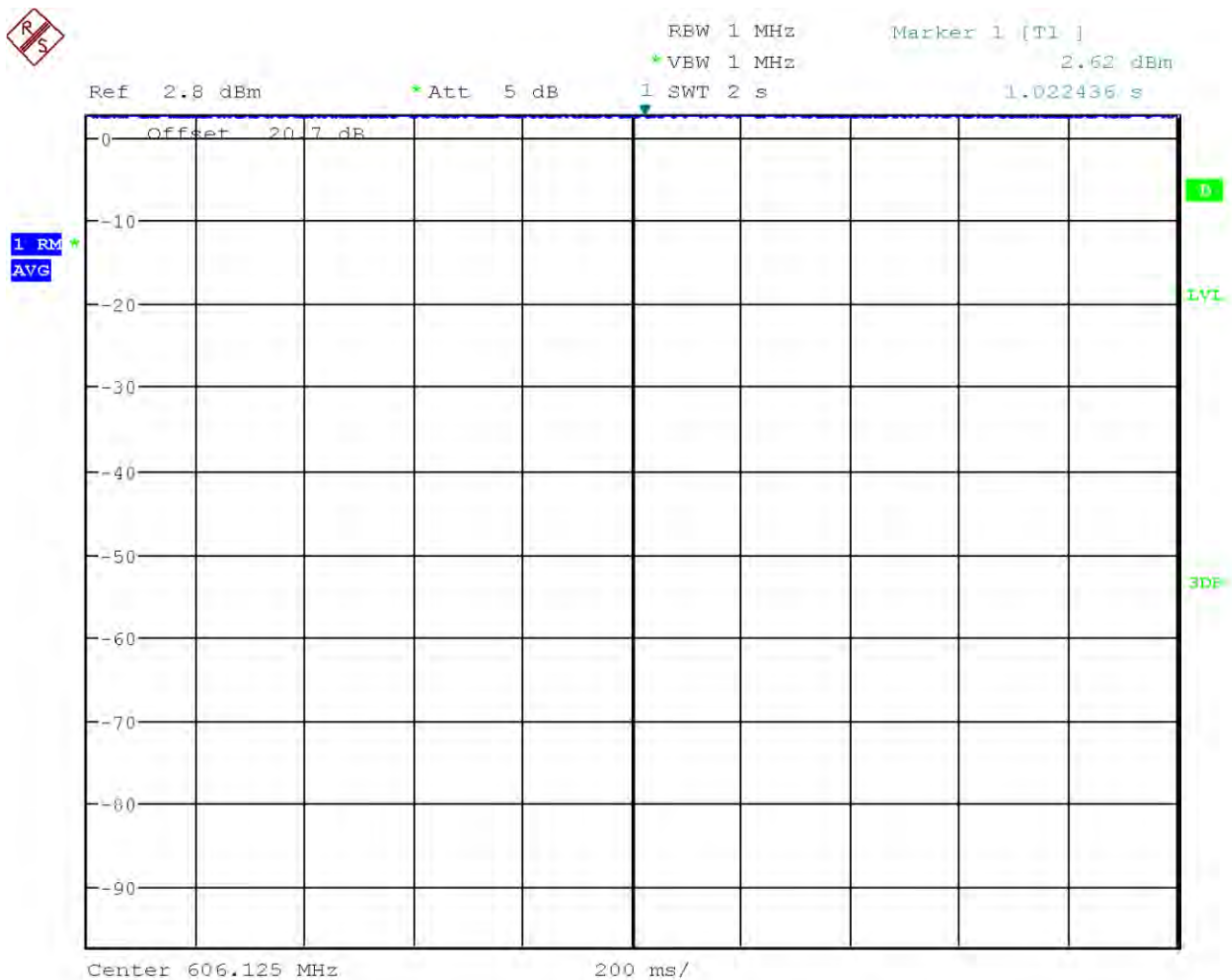
EUT Name:	AD1 K55 #175 (For K53 Band)
Serial Number:	TU162050094
Test Description:	RSS-210 Annex G Necessary Bandwidth Noise Floor Reference
Operating Conditions:	606.125MHz (Low Frequency) at 35mW in Normal Mode
Operator Name:	Alex Stelmaszczyk
Comment:	R & S FSU Spectrum Analyzer
Test Date:	November 22, 2016 15:45:17 PM



Test Information

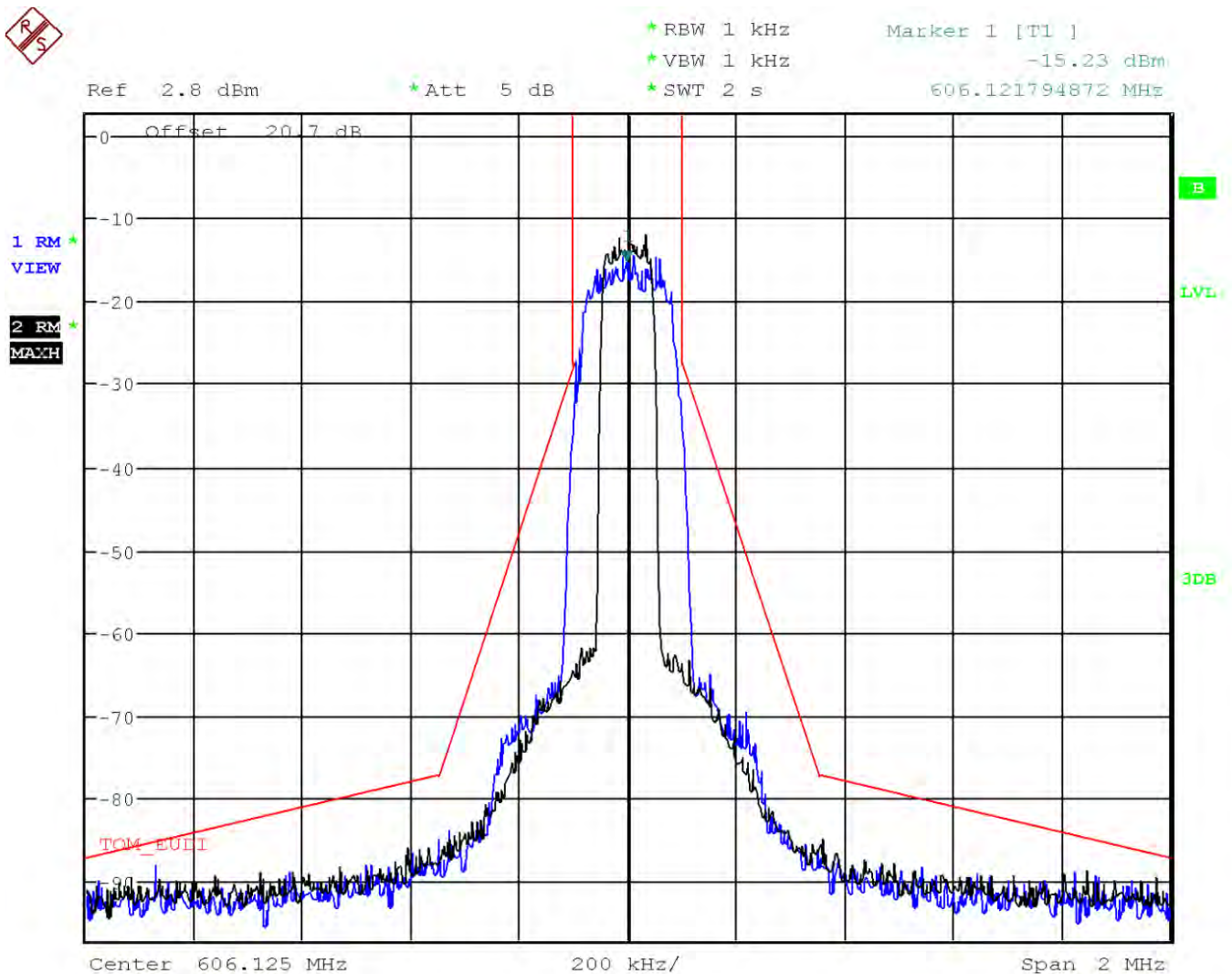
EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Carrier Power Reference
Operating Conditions: 606.125MHz (Low Frequency) at 2mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 15:48:42 PM



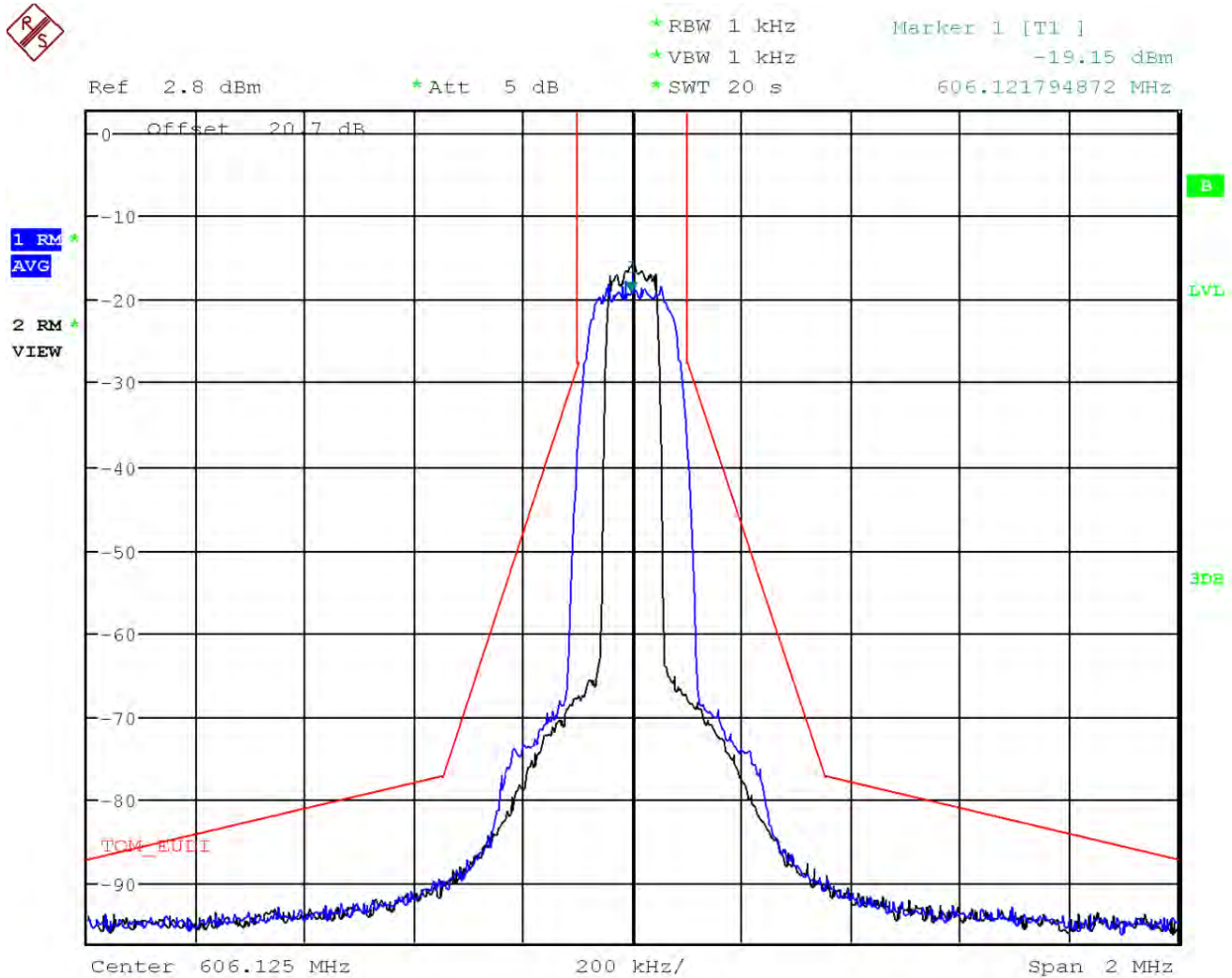
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 606.125MHz (Low Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:52:53 PM



Test Information

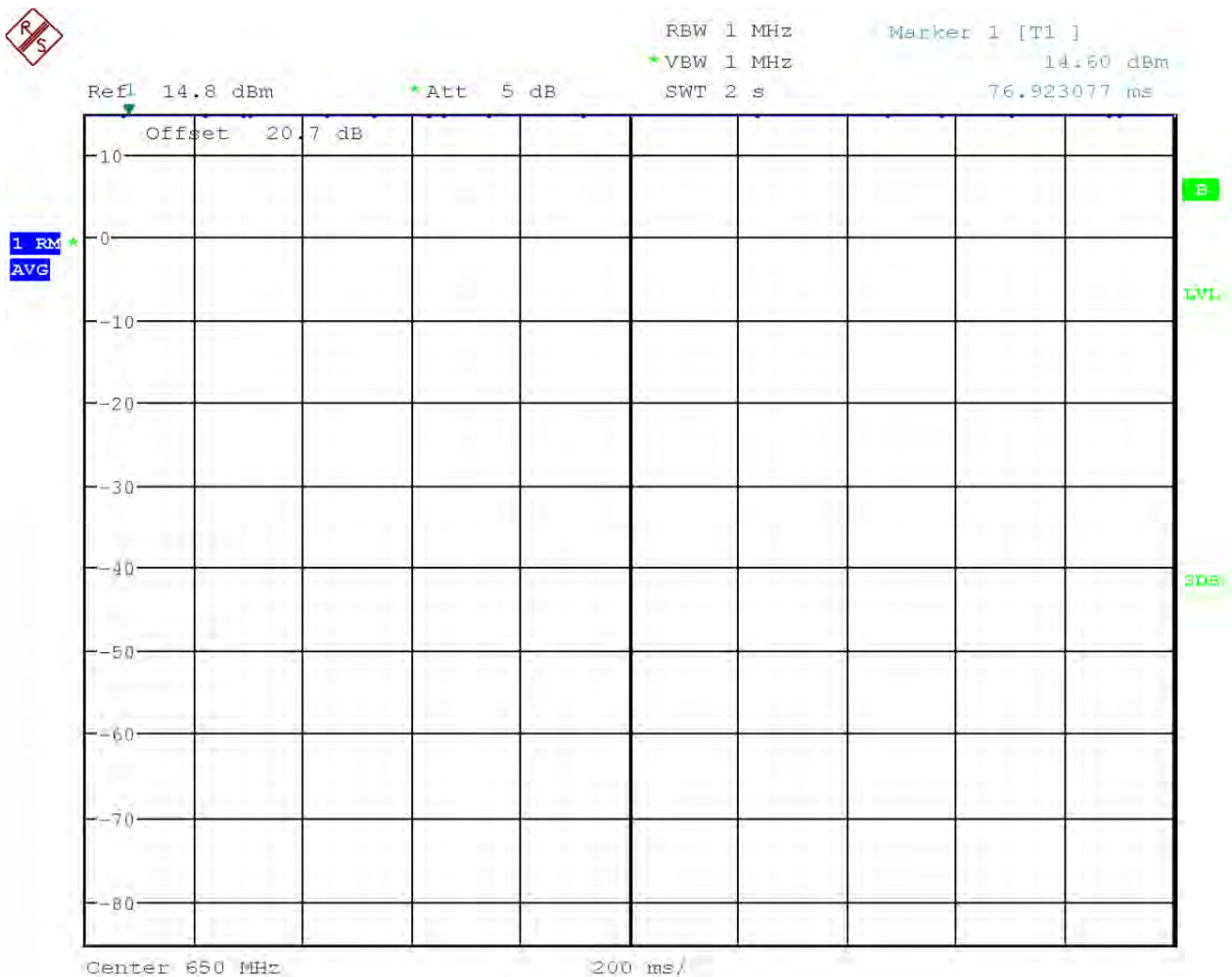
EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 606.125MHz (Low Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:57:13 PM



Test Information

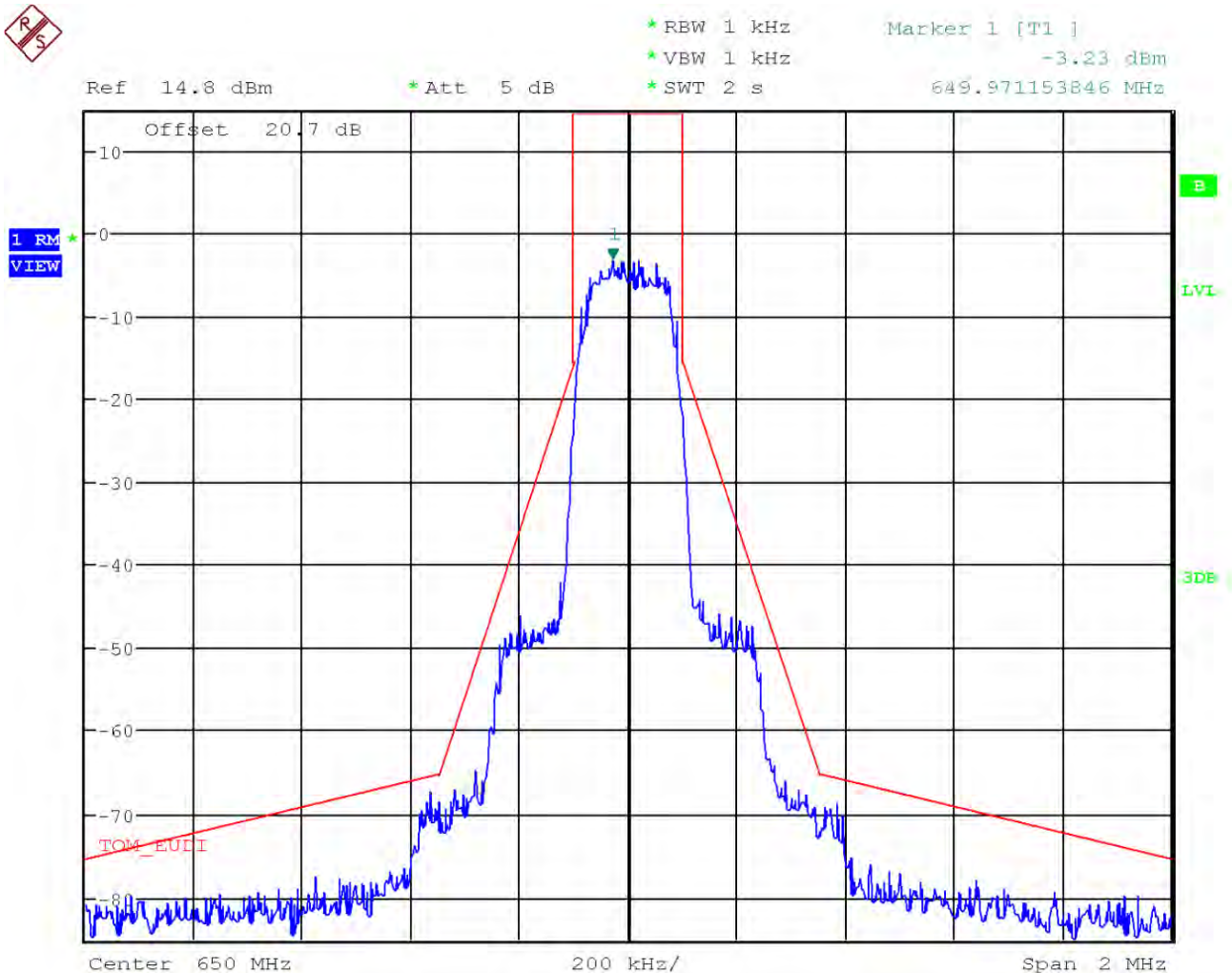
EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Carrier Power Reference
Operating Conditions: 650.000MHz (Mid Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 15:31:24 PM



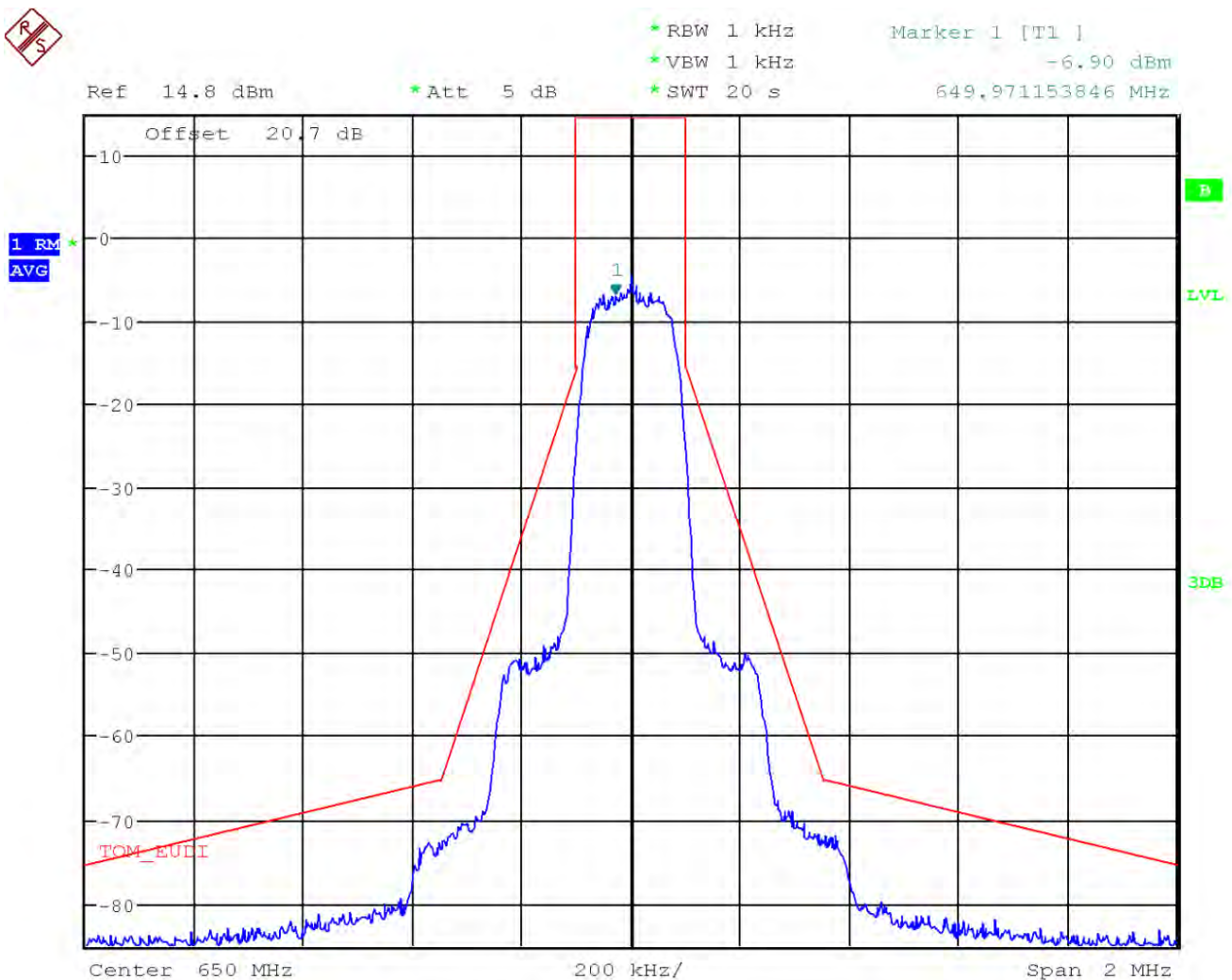
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 650.000MHz (Mid Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:33:18 PM



Test Information

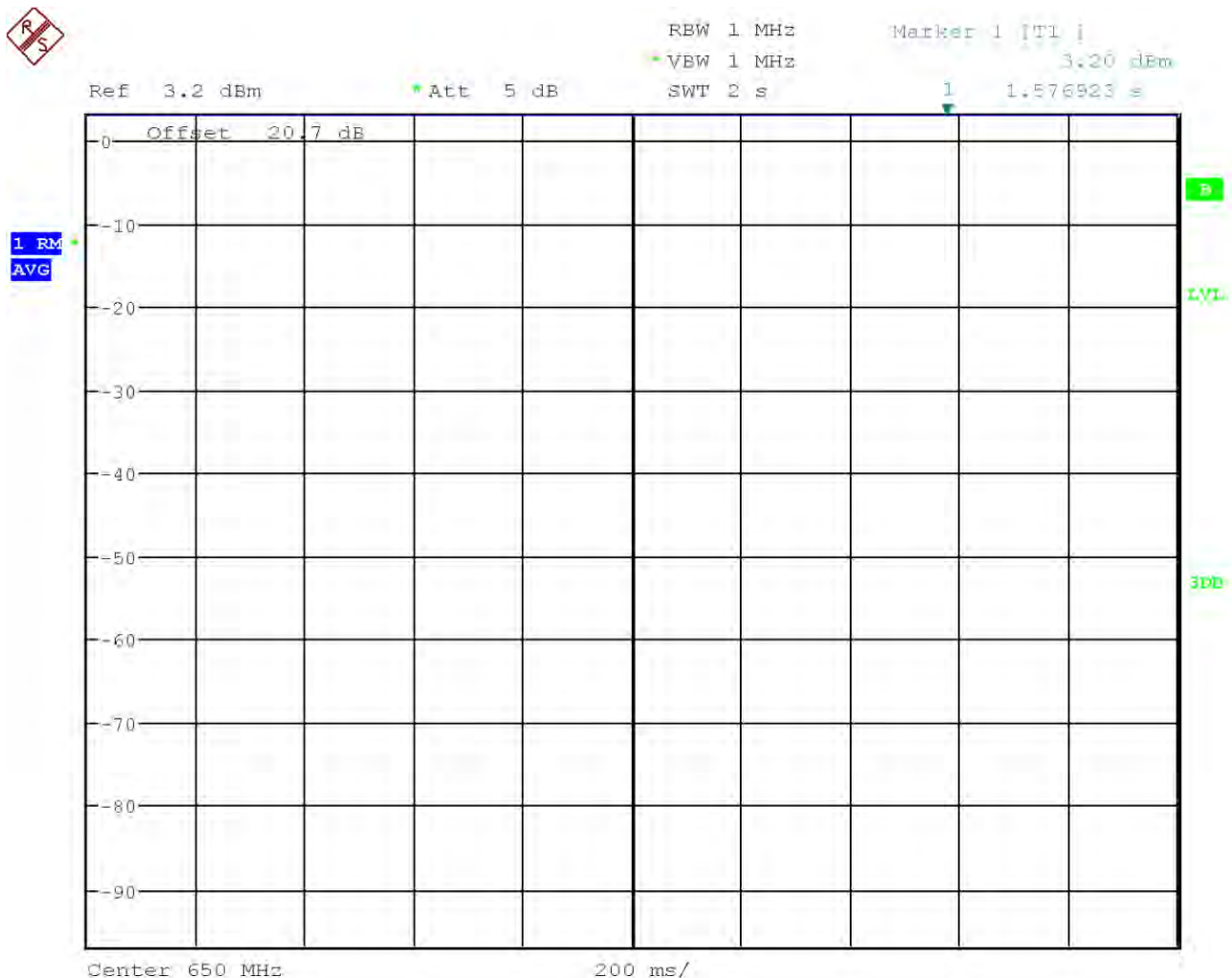
EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 650.000MHz (Mid Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:35:47 PM



Test Information

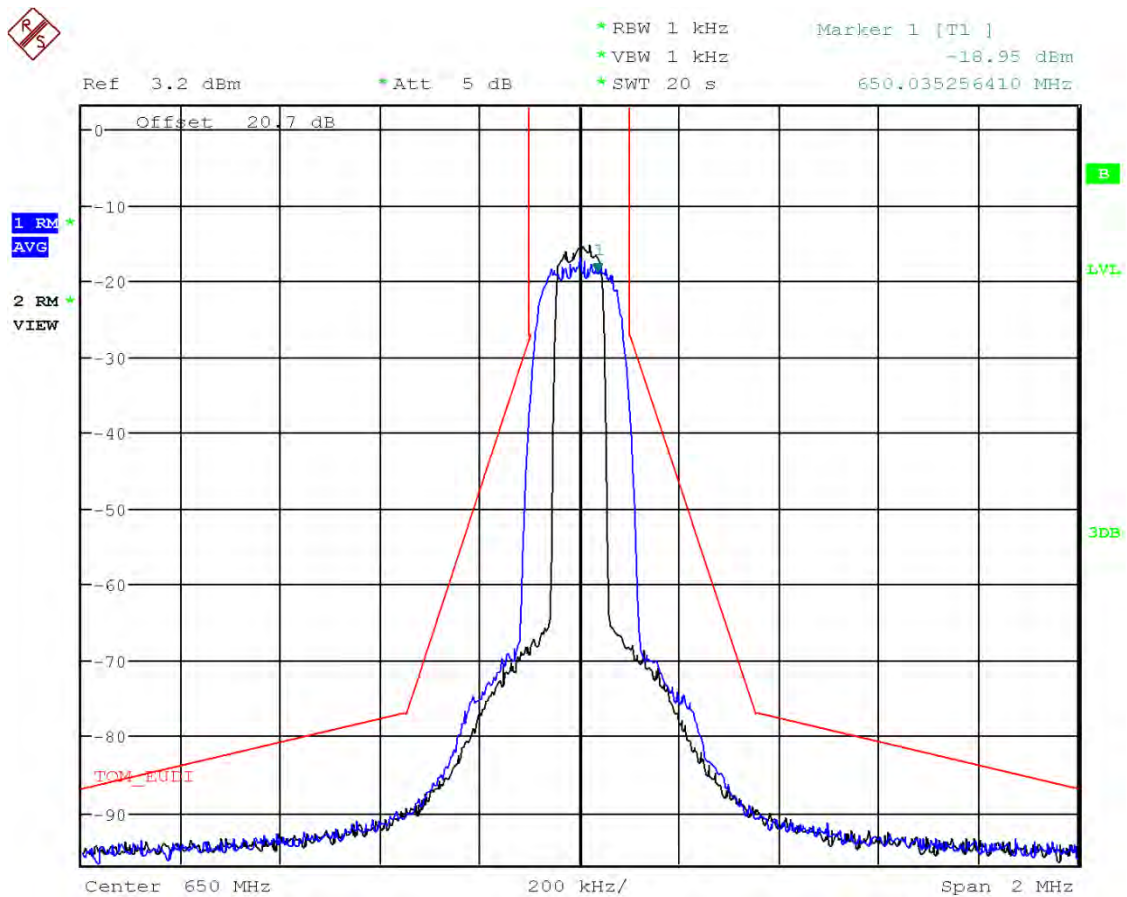
EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Carrier Power Reference
Operating Conditions: 650.000MHz (Mid Frequency) at 2mW in Normal Mode

Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 15:59:24 PM



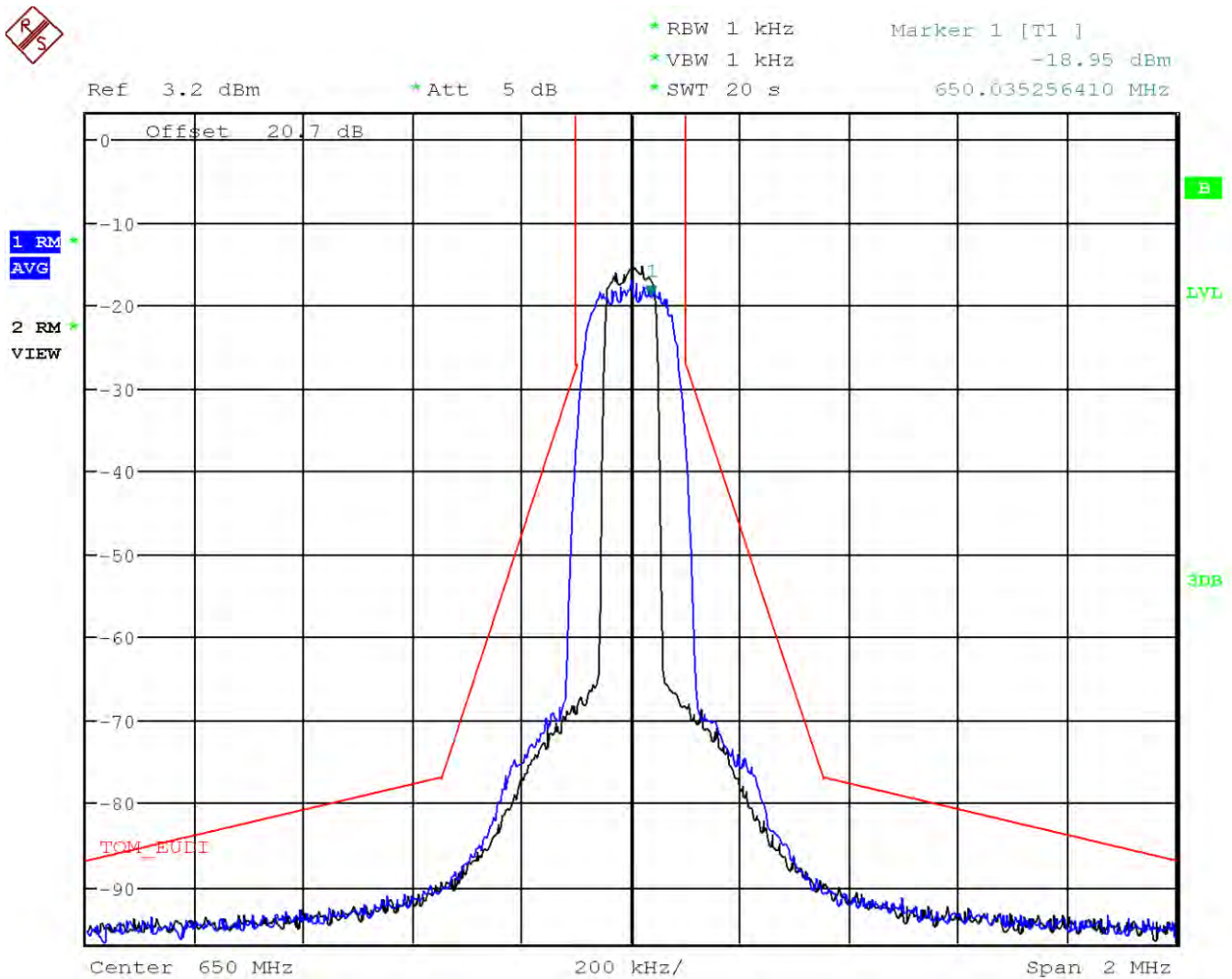
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Operating Conditions: 650.000MHz (Mid Frequency) at 2mW in Normal Mode (Blue Trace) and High Density Mode (Black Trace) (Channel Bandwidth Options)
Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 16:06:30 PM



Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 650.000MHz (Low Frequency) at 2mW in Normal Mode
 (Blue Trace) and High Density Mode (Black Trace)
 (Channel Bandwidth Options)
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 16:06:30 PM



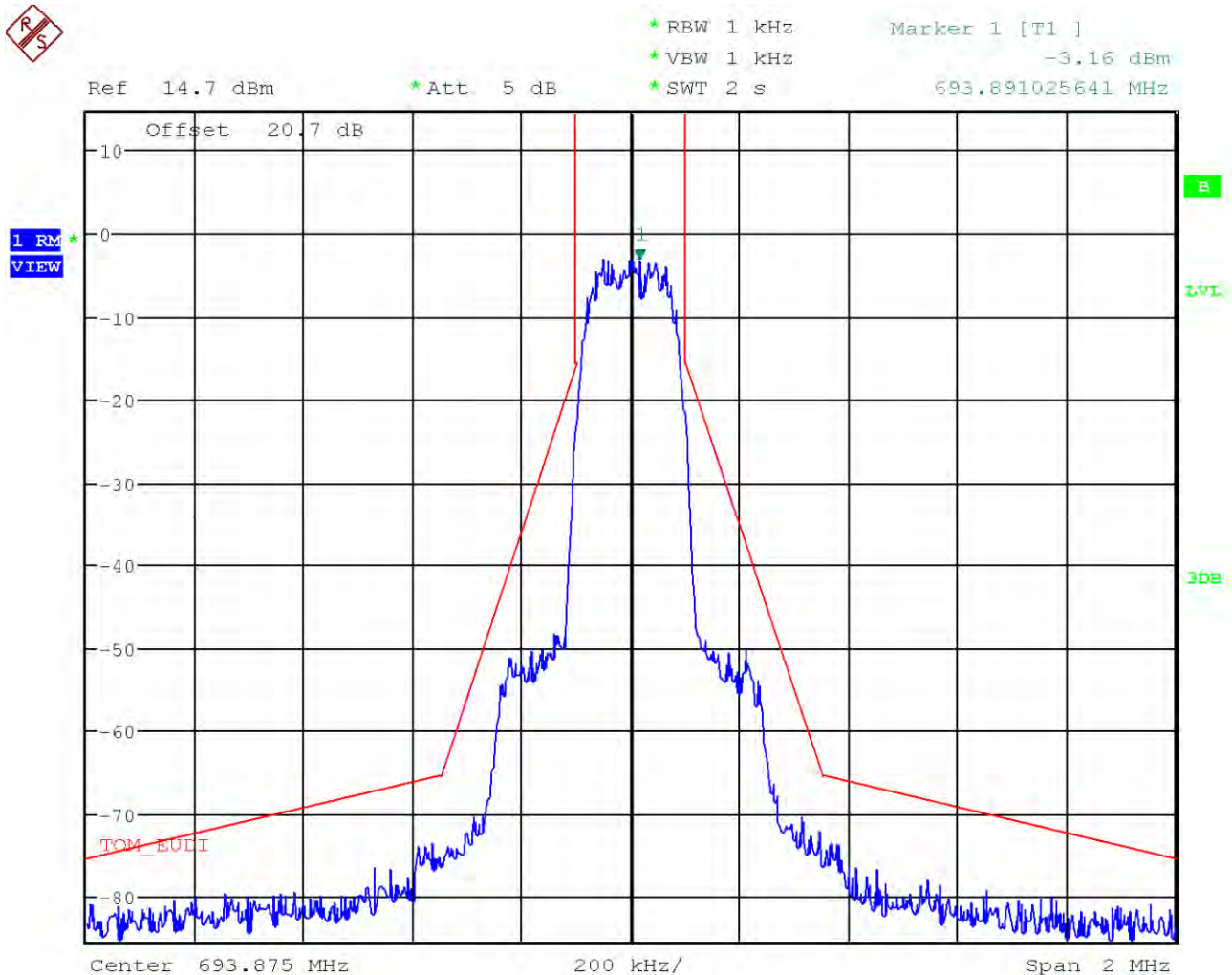
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 693.875MHz (High Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:19:02 PM



Test Information

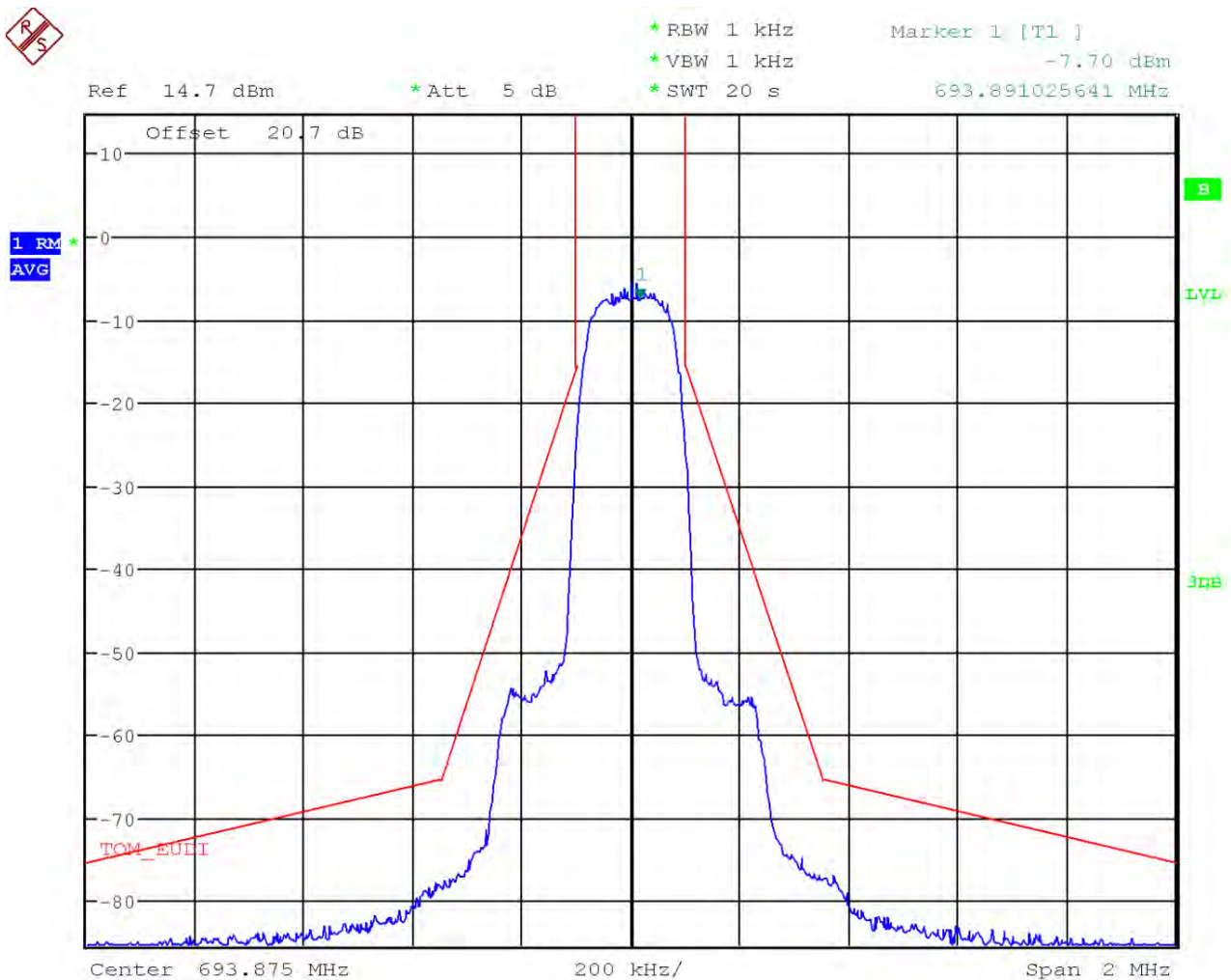
EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Operating Conditions: 693.875MHz (High Frequency) at 35mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:23:06 PM



Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Noise Floor Reference
 Operating Conditions: 693.875MHz (High Frequency) at 35mW in Normal Mode

Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 15:25:52 PM



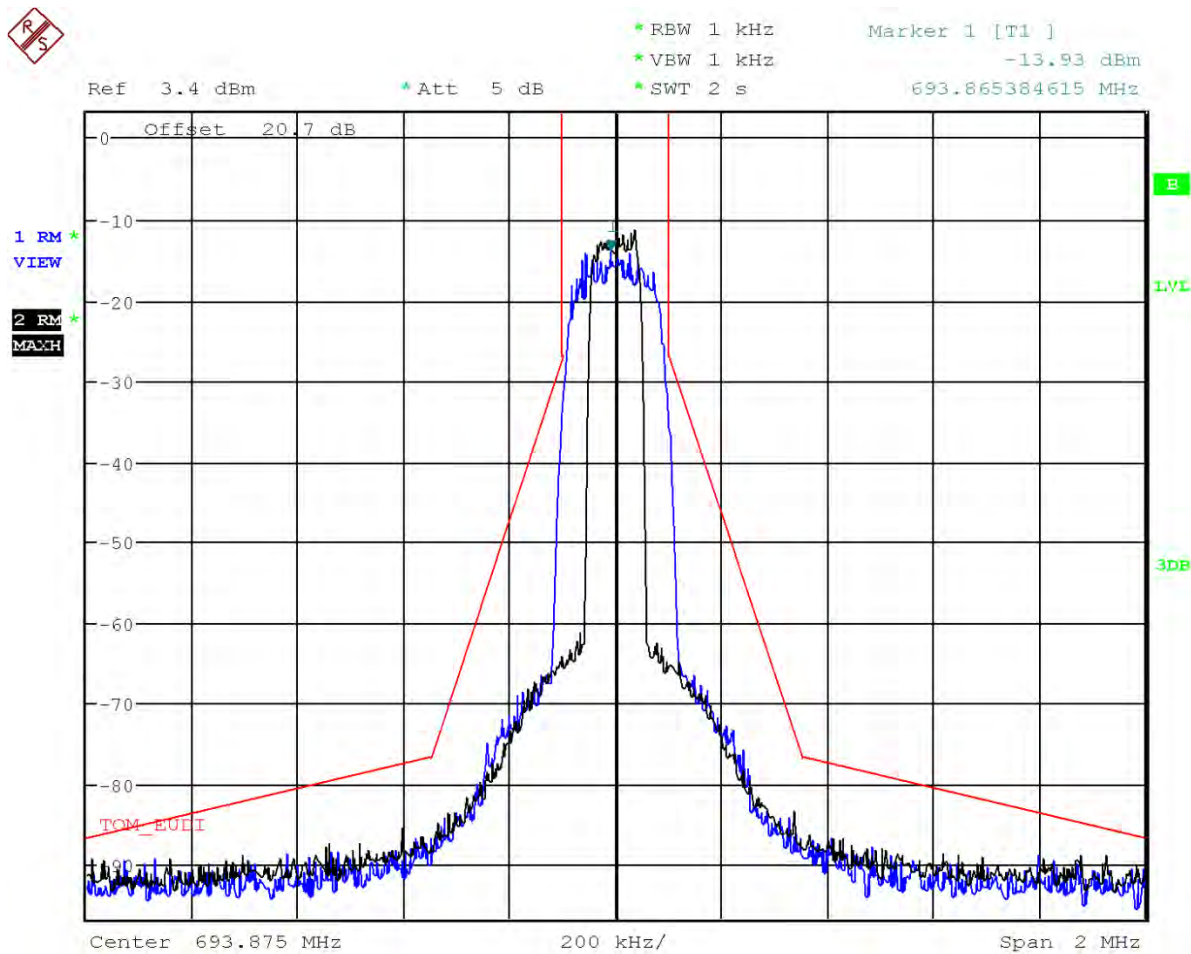
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
 Serial Number: TU162050094
 Test Description: RSS-210 Annex G Necessary Bandwidth
 Carrier Power Reference
 Operating Conditions: 693.875MHz (High Frequency)at 2mW in Normal Mode
 Operator Name: Alex Stelmaszczyk
 Comment: R & S FSU Spectrum Analyzer
 Test Date: November 22, 2016 16:13:29 PM



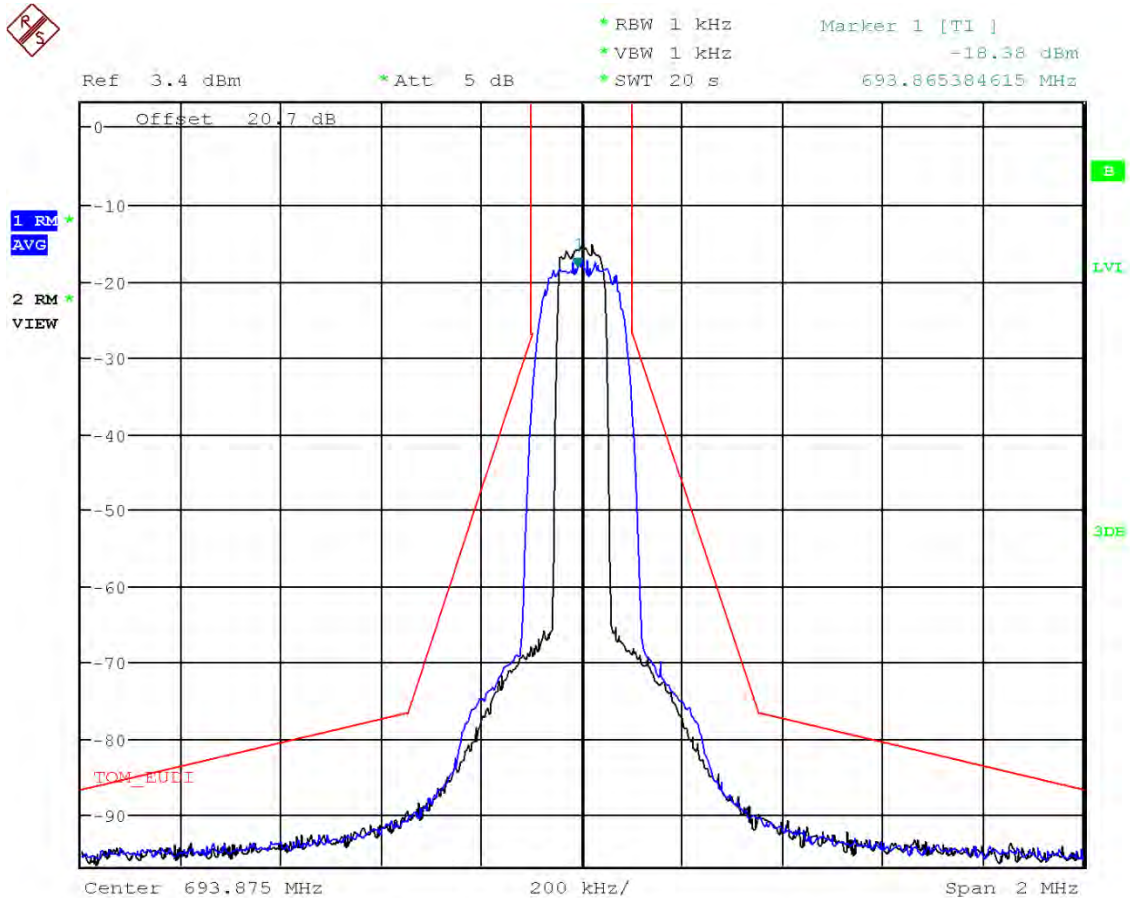
Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Operating Conditions: 693.875MHz (High Frequency) at 2mW in Normal Mode
(Blue Trace) and High Density Mode (Black Trace)
(Channel Bandwidth Options)
Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 16:16:02 PM



Test Information

EUT Name: AD1 K55 #175 (For K53 Band)
Serial Number: TU162050094
Test Description: RSS-210 Annex G Necessary Bandwidth
Noise Floor Reference
Operating Conditions: 693.875MHz (High Frequency) at 2mW in Normal Mode
(Blue Trace) and High Density Mode (Black Trace)
(Channel Bandwidth Options)
Operator Name: Alex Stelmaszczyk
Comment: R & S FSU Spectrum Analyzer
Test Date: November 22, 2016 16:21:17 PM



E. FIELD STRENGTH OF SPURIOUS EMISSIONS – 25 MHz TO 10,000 MHz

E.1. PURPOSE:

This test was performed to determine if the AD1 (EUT) meets the radiated RF emission requirements of the FCC Part 74.861(e)(6)(iii) over the frequency range from 30MHz to 10GHz, and the RSS-210 Annex G specifications, over the frequency range from 25MHz to 4GHz.

E.2. REQUIREMENTS:

As stated in paragraph 74.861 for low power auxiliary stations operating in the bands allocated for TV broadcasting, the mean power of emissions shall be attenuated by at least $43 + 10 \log (P)$ dB below the mean output power on any frequency removed from the operating frequency by more than 250 percent of the authorized bandwidth.

As stated in the RSS-210, Annex G, Section G3.4 specifications for Category 1 Equipment, the transmitter unwanted emissions shall meet the requirements in sections 8.3 and 8.4 of ETSI EN 300 422-1 v1.4.2 (2011-08), Electromagnetic compatibility and radio spectrum matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement.

Table 3: Limits for RSS-210 Spurious Emissions (from EN 300 422-1)

State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250nW	1uW
Standby	2nW	2nW	20nW

E.3. MEASUREMENT UNCERTAINTY:

All measurements are an estimate of their true value. The measurement uncertainty characterizes, with a specified confidence level, the spread of values which may be possible for a given measurement system.

Values of Expanded Measurement Uncertainty (95% Confidence):

Measurement Type	U_{lab}
Radiated disturbance (electric field strength on an open area test site or alternative test site) (30 MHz – 1000 MHz)	4.12 dB
Radiated disturbance (electric field strength on an open area test site or alternative test site) (1 GHz – 12.75 GHz)	4.55 dB

U_{lab} = Determined for Shure EMC Laboratory

- Compliance is deemed to occur if no measured disturbance exceeds the disturbance limit;
- Non-compliance is deemed to occur if any measured disturbance exceeds the disturbance limit.

Appendix E

E.4. TEST SETUP AND INSTRUMENTATION:

Photographs of the test setup are shown in Figures E-1 through E-8 on pages 108 - 112. The test instrumentation can be determined from Table 10-1.

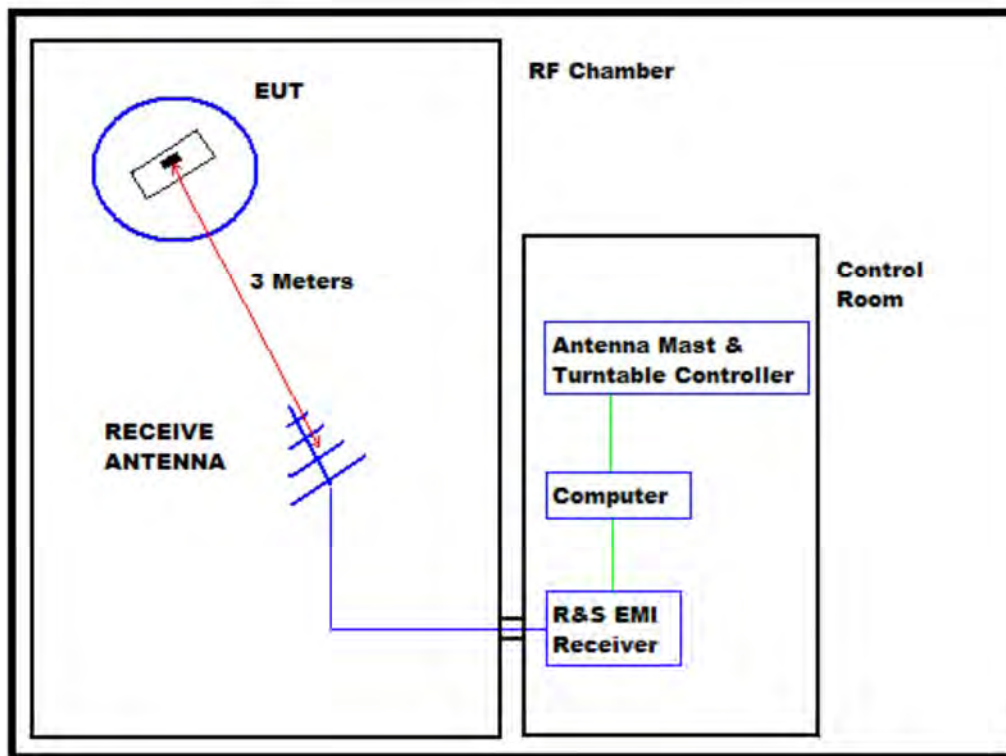
E.5. EUT OPERATION:

The EUT was powered up and the frequency of the transmitter was selected using the front panel controls. The EUT was checked for proper operation after it was setup on the table. Testing was conducted with the EUT set to the Low, Mid and High frequency within the operating frequency range, and powered with 2 "AA" batteries.

E.6. SPECIFIC TEST PROCEDURES:

All tests were performed in a 28ft. x 20ft. x 18.5ft. 3m semi-anechoic test chamber. The walls and ceiling of the shielded chamber are lined with ferrite tiles. Anechoic absorber material is installed over the ferrite tile. The floor of the chamber is used as the ground plane. The chamber complies with ANSI C63.4-2009 for site attenuation.

The shielded enclosure prevents emissions from other sources, such as radio and TV stations from interfering with the measurements. All power lines and signal lines entering the enclosure pass through filters on the enclosure wall. The power line filters prevent extraneous signals from entering the enclosure on these leads.



BLOCK DIAGRAM OF SHIELDED ENCLOSURE

Appendix E

Preliminary radiated measurements were performed to determine the frequencies where the significant emissions might be found. The broadband measuring antenna was positioned at a 3 meter distance from the EUT. The frequency range from 30MHz to 1GHz was investigated using a peak detector function with the BiConiLog antenna at horizontal and vertical polarization, and with several different orientations of the EUT with respect to the antenna. The maximum levels measured for each antenna polarization were then automatically plotted. The resultant field strength (FS) is a summation in decibels (dB) of the EMI receiver measurement (ERM), the antenna correction factor (AF), and the cable loss factor (CF). If an external pre-amplifier is used, the total is reduced by its gain (-PA).

Formula 1: $FS (dB\mu V/m) = MTR (dB\mu V) + AF (dB/m) + CF (dB) + (-PA (dB))$

To convert the Field Strength $dB\mu V/m$ term to $\mu V/m$, the $dB\mu V/m$ is first divided by 20. The Base 10 AntiLog is taken of this quotient. The result is the Field Strength value in $\mu V/m$ terms.

Formula 2: $FS (\mu V/m) = \text{AntiLog} [(FS (dB\mu V/m))/20]$

Final radiated RF emissions were performed on all significant broadband and narrowband emissions found in the preliminary sweeps using the following methods:

- 1) Measurements of all significant broadband and narrowband signals from 30MHz to 1GHz were made using a peak detector and a BiConiLog antenna. Measurements above 1GHz were made using a peak detector and a broadband double ridged waveguide antenna.
- 2) Narrow band emissions in close proximity to the limits prescribed by the applied regulatory standard were selected for closer investigation. To ensure that maximum or worst case, emission levels were measured, the following steps were taken:
 - i. The EUT was rotated so that all of its sides were exposed to the receiving antenna.
 - ii. Since the measuring antenna is linearly polarized, both horizontal and vertical field components were measured.
 - iii. The measuring antenna was raised and lowered from 1 to 4 meters for each antenna polarization to maximize the readings.

E.7. RESULTS:

The plots of the peak preliminary radiated voltage levels are presented on pages 113 through 206.

The maximized peak radiated voltage level results are presented on pages 116, 120, 125, 129, 134, 138, 143, 147, 152, 156, 161, 165, 169, 173, 177, 181, 185, 189, 194, 198, 203 and 207.

The matched peak power levels are presented on pages 117, 121, 126, 130, 135, 139, 144, 148, 153, 157, 162, 166, 170, 174, 178, 182, 186, 190, 195, 199, 204 and 208.

All emissions measured from the AD1 were within both the FCC "Code of Federal Regulations" Title 47 Part 74, Subpart H and ISCED Canada RSS-210, Annex G, Section G3.4 specification limits.

Appendix E

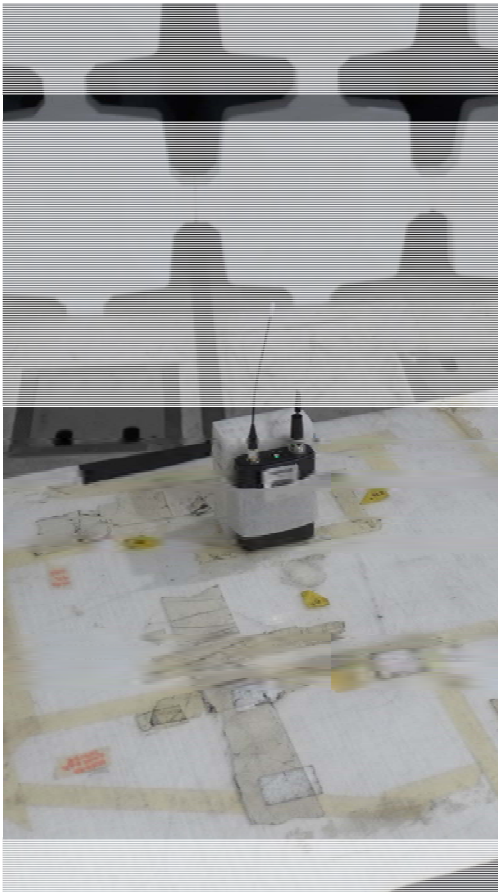


Figure E-1 - Test Setup for Spurious Emissions 30MHz to 1GHz

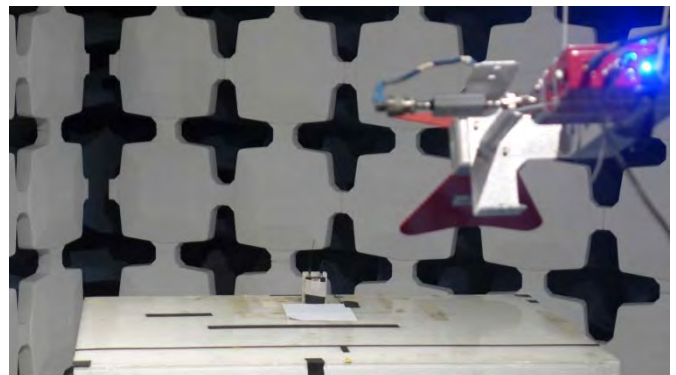
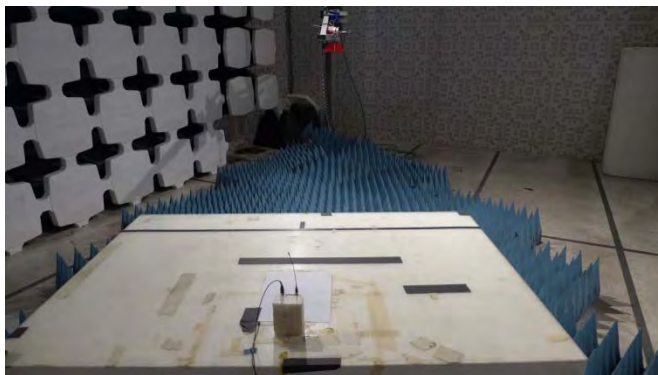


Figure E-2 - Test Setup for Spurious Emissions 1GHz to 10GHz

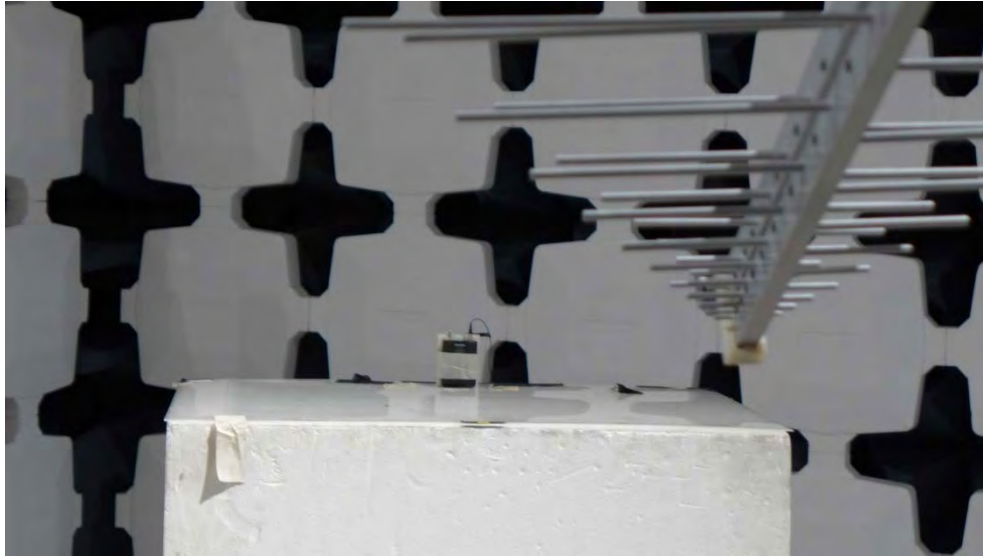


Figure E-3 - Test Setup for Spurious Emissions 25MHz to 1GHz

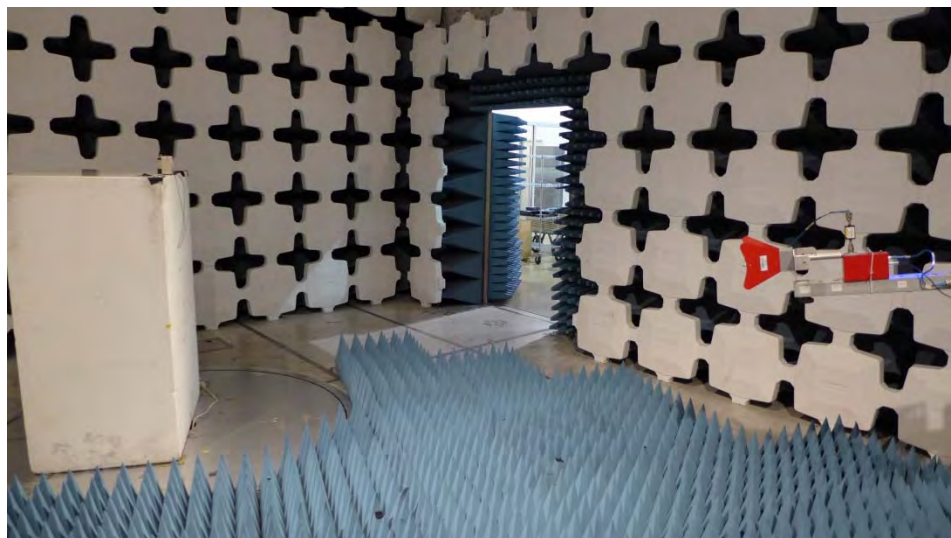


Figure E-4 - Test Setup for Spurious Emissions 1GHz to 4GHz



Figure E-5 - Test Setup for Spurious Emissions Matching 1GHz to 10GHz

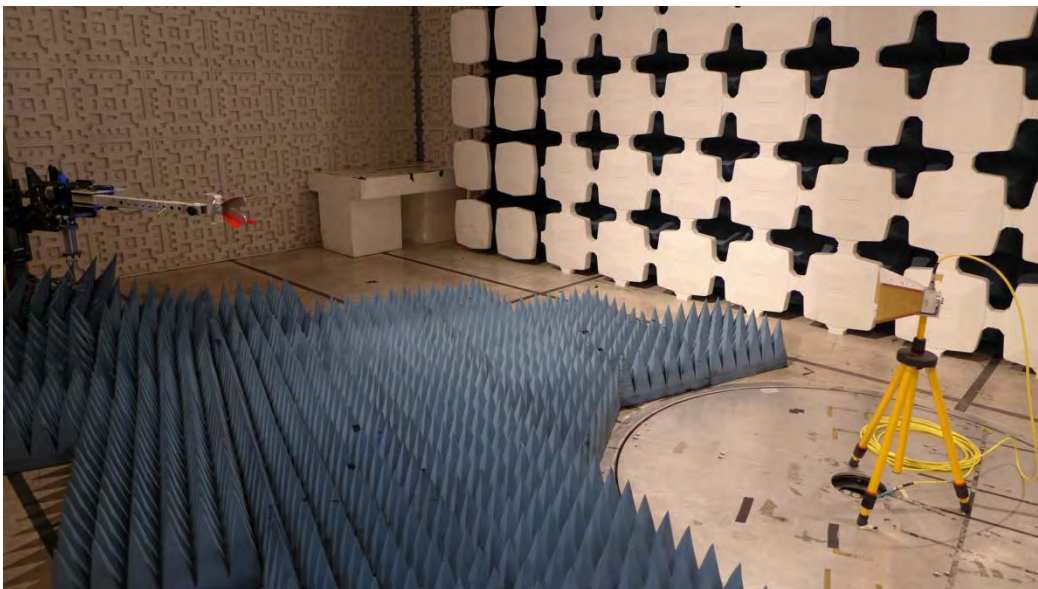


Figure E-6 - Test Setup for Spurious Emissions Matching 1GHz to 10GHz



Figure E-7 - Test Setup for Spurious Emissions Matching 25MHz to 1GHz

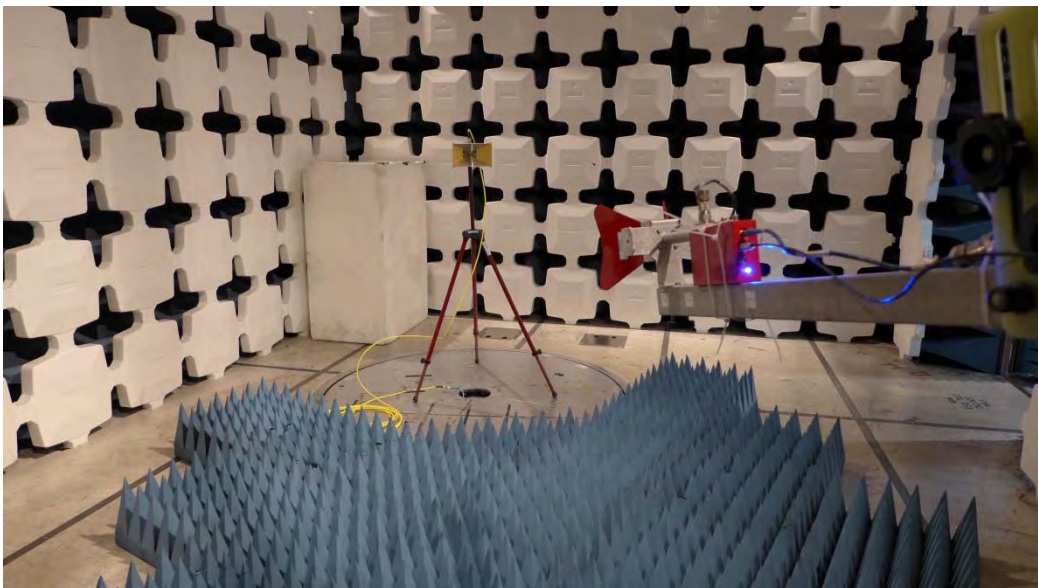


Figure E-8 - Test Setup for Spurious Emissions Matching 1GHz to 4GHz

Test Information

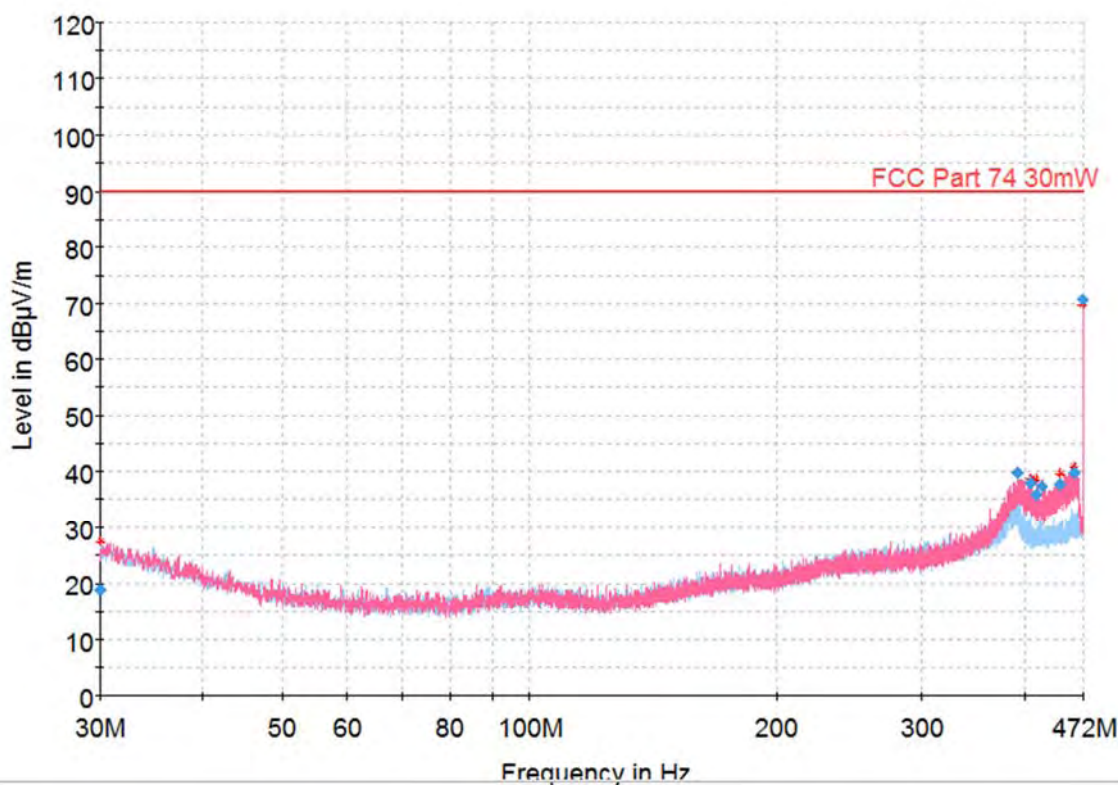
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 472MHz
Operating Conditions: 470.125MHz L @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w/ L23-27-02 Tuned Notch
Test Date & Time: October 25, 2016 3:40:38 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

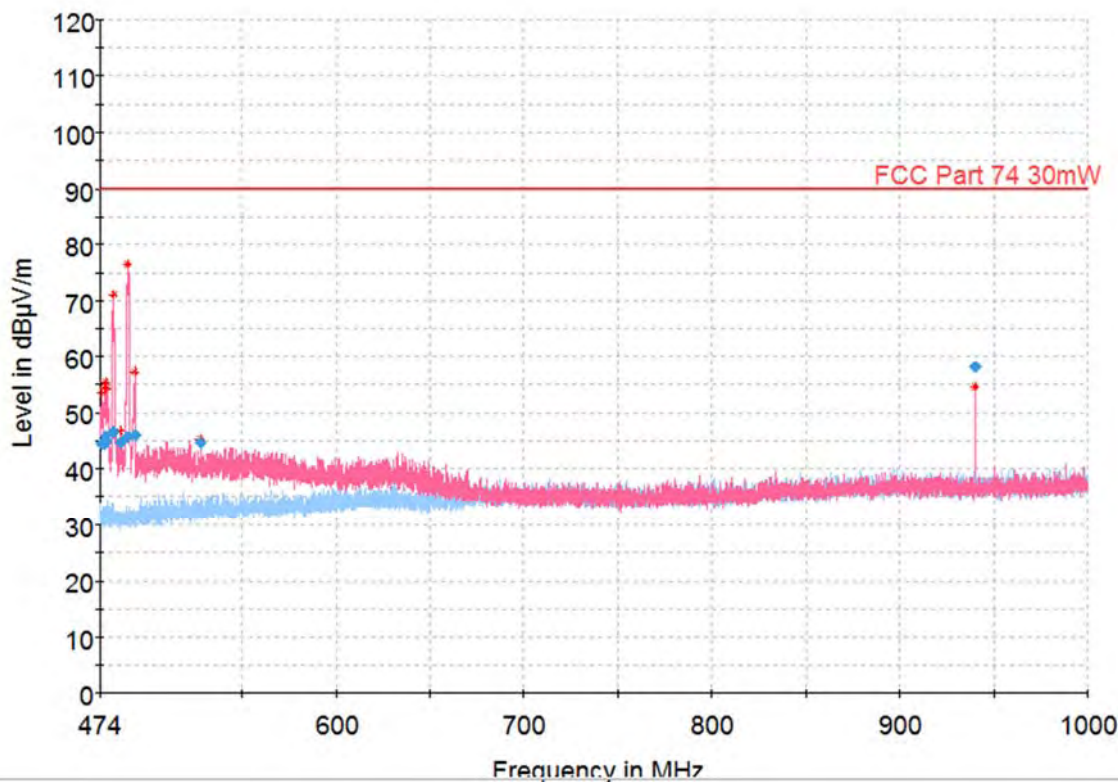
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 474 - 1000MHz
Operating Conditions: 470.125MHz L @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w/o L23-27-02 Tuned Notch
Test Date & Time: October 25, 2016 4:16:26 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

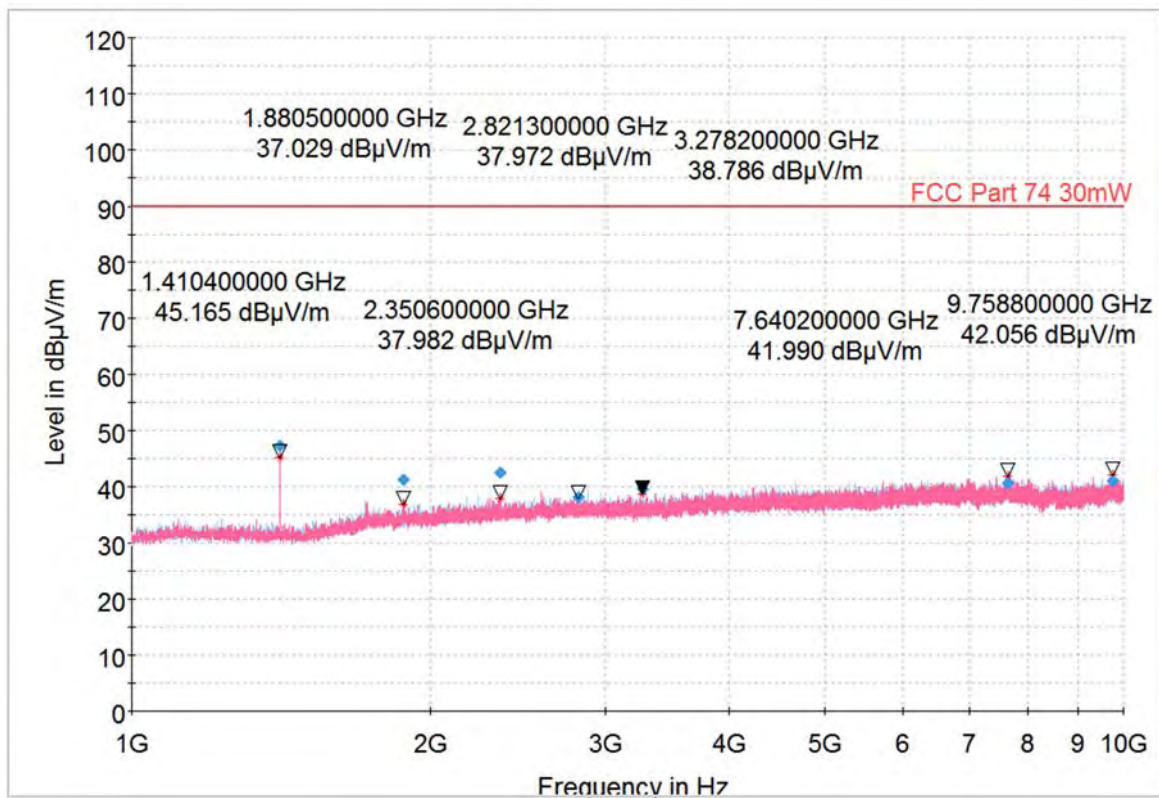
EUT Name: AD1 G55 #45
 Serial Number: TU162070085
 Test Description: Radiated RF Emissions 1GHz to 10GHz
 Operating Conditions: 470.125MHz L @ 35mW
 Operator Name: Alex Stelmaszczyk
 Comment: FCC pt. 74
 Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
 Test Date & Time: December 1, 2016 10:39:06 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
 Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum



Appendix E

Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
Operating Conditions: 470.125MHz L @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: October 25, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
30.074	18.89	84.38	71.110	20	120.00	200.000	H	151.00	16.90
391.630	39.81	84.38	50.190	20	120.00	118.000	V	303.00	18.00
407.939	38.09	84.38	51.910	20	120.00	122.000	V	285.00	17.90
412.713	35.96	84.38	54.040	20	120.00	119.000	V	78.00	18.00
419.608	37.39	84.38	52.610	20	120.00	126.000	V	21.00	18.10
441.900	37.75	84.38	52.250	20	120.00	125.000	V	278.00	18.70
459.683	39.95	84.38	50.050	20	120.00	111.000	V	317.00	19.50
475.245	44.49	84.38	45.510	20	120.00	100.000	V	276.00	20.40
476.770	44.34	84.38	45.660	20	120.00	119.000	V	45.00	20.40
477.331	45.81	84.38	44.190	20	120.00	118.000	V	70.00	20.40
478.033	44.96	84.38	45.040	20	120.00	118.000	V	314.00	20.40
481.487	46.59	84.38	43.410	20	120.00	111.000	V	73.00	20.50
485.186	44.58	84.38	45.420	20	120.00	111.000	V	228.00	20.50
489.149	45.63	84.38	44.370	20	120.00	100.000	V	9.00	20.60
492.708	46.03	84.38	43.970	20	120.00	100.000	V	150.00	20.60
527.582	44.57	84.38	45.430	20	120.00	100.000	V	10.00	21.50
940.264	58.23	84.38	31.770	20	120.00	100.000	V	120.00	26.10
1410.400	47.30	84.38	42.700	1000	1000.00	203.000	V	44.00	-19.10
1880.500	41.35	84.38	48.650	1000	1000.00	263.000	V	3.00	-15.20
2350.600	42.65	84.38	47.350	1000	1000.00	294.000	V	-10.00	-13.20
2821.300	38.23	84.38	51.770	1000	1000.00	400.000	H	269.00	-11.70
3278.200	39.64	84.38	50.360	1000	1000.00	116.000	H	308.00	-11.00
7640.200	40.67	84.38	49.330	1000	1000.00	389.000	V	221.00	-2.90
9758.800	41.15	84.38	48.850	1000	1000.00	381.000	H	225.00	-1.10

Appendix E

Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Radiated Emissions Matching
Operating Conditions: 470.125MHz L @ 35mW
Operator Name: Alex Stelmaszczyk, Tom Braxton & Mudassar Khan
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: May 5 – 10, 2017

Frequency MHz	Max Peak (dBμV/m)	Matched Power from Sig Gen	Limit (dBm)	Margin (dBm)	Polarity	Cable Loss (dB)	Cable 2 Loss (dB)	Antenna Gain (dB)	ERP / EIRP Total (dBm)	Status
477.331	45.81	-52.9	-13.0	42.1	V	0.95	1.27		-55.12	PASS
478.033	44.96	-53.9	-13.0	43.1	V	0.95	1.27		-56.12	PASS
481.487	46.59	-52.1	-13.0	41.4	V	1.00	1.27		-54.37	PASS
485.186	44.58	-54.1	-13.0	43.4	V	1.00	1.27		-56.37	PASS
489.149	45.63	-52.4	-13.0	41.7	V	1.00	1.28		-54.68	PASS
492.708	46.03	-52.0	-13.0	41.3	V	1.05	1.28		-54.33	PASS
527.582	44.57	-54.1	-13.0	43.5	V	1.10	1.29		-56.49	PASS
940.264	58.23	-36.5	-13.0	26.8	V	1.50	1.83		-39.83	PASS
1410.400	47.30	-51.8	-13.0	38.4	V	2.10	2.18	3.90	-52.18	PASS
1880.500	41.35	-59.8	-13.0	47.3	V	2.25	2.63	5.40	-59.28	PASS
2350.600	42.65	-59.8	-13.0	47.7	V	2.55	2.00	5.40	-58.95	PASS
2821.300	38.23	-76.5	-13.0	64.4	H	2.70	3.15	6.70	-75.65	PASS
3278.200	39.64	-74.0	-13.0	62.0	H	3.20	3.44	7.60	-73.04	PASS

Test Information

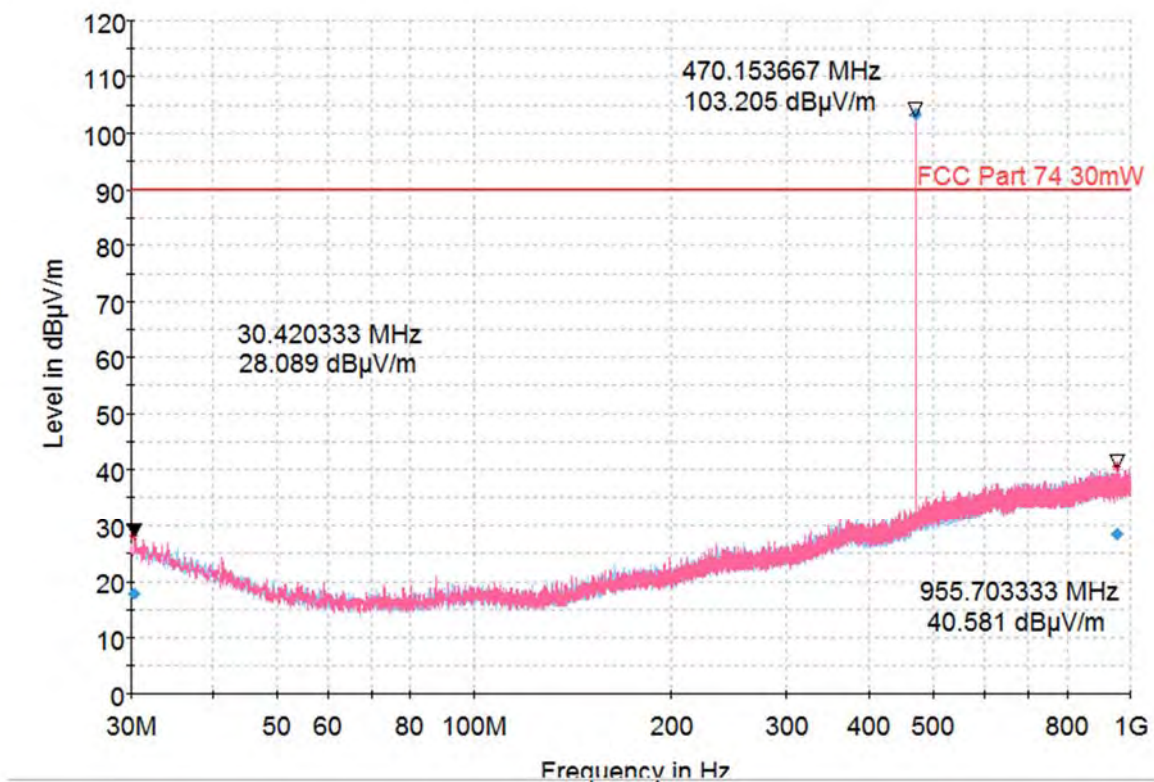
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 1GHz
Operating Conditions: 470.125MHz L @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input
Test Date & Time: October 20, 2016 4:29:23 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

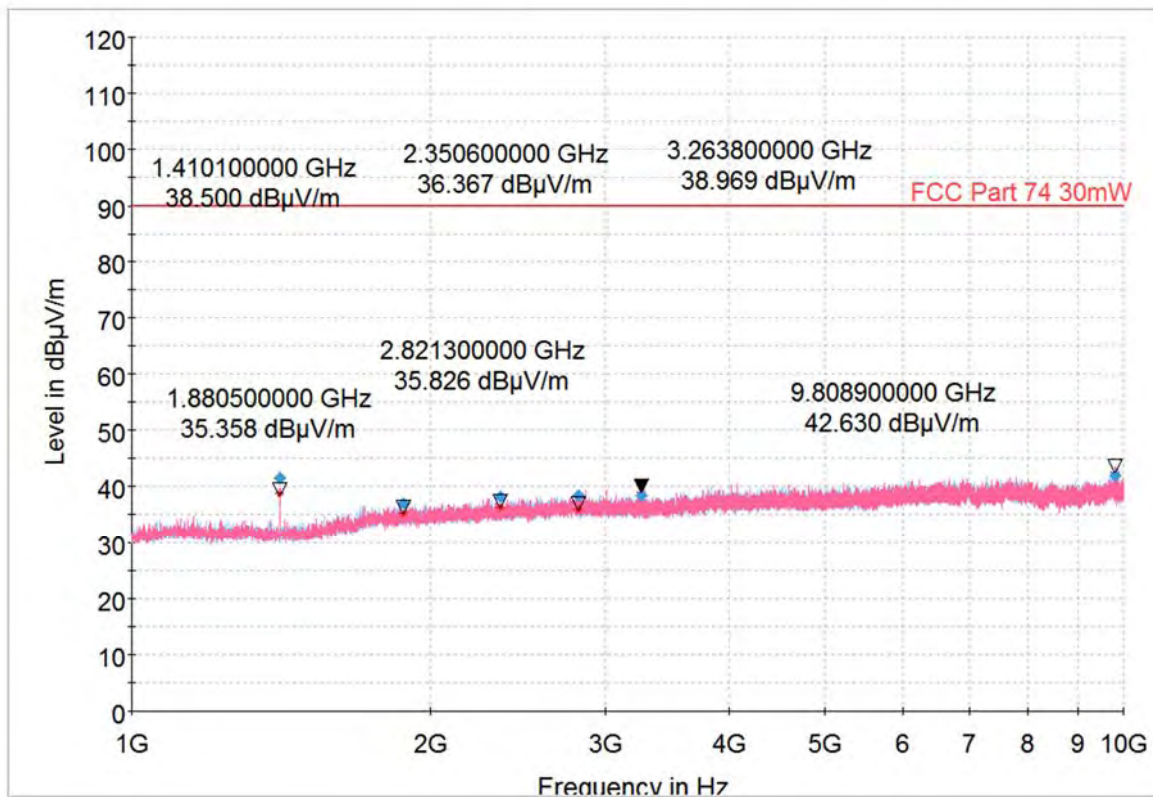
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 1GHz to 10GHz
Operating Conditions: 470.125MHz L @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
Test Date & Time: December 12, 2016 5:24:07 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum



Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
Operating Conditions: 470.125MHz L @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: October 25, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
30.420	17.93	84.38	72.070	20	120.00	300.000	V	82.00	16.80
955.703	28.34	84.38	61.660	20	120.00	307.000	V	302.00	26.10
1880.500	36.93	84.38	53.070	1000	1000.00	262.000	H	161.00	-15.20
2350.600	38.11	84.38	51.890	1000	1000.00	299.000	V	89.00	-13.20
2821.300	38.34	84.38	51.660	1000	1000.00	250.000	H	142.00	-11.70
3263.800	38.33	84.38	51.670	1000	1000.00	118.000	V	222.00	-11.10
9808.900	41.92	84.38	48.080	1000	1000.00	351.000	V	90.00	-1.00

Appendix E

Test Information

EUT Name: AD1 G55 #45
 Serial Number: TU162070085
 Test Description: FCC pt.74 & RSS-210 Radiated Emissions Matching
 Operating Conditions: 470.125MHz L @ 2mW
 Operator Name: Alex Stelmaszczyk, Tom Braxton & Mudassar Khan
 Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
 Test Date: May 5 – 10, 2017

Frequency MHz	Max Peak (dBμV/m)	Matched Power from Sig Gen	Limit (dBm)	Margin (dBm)	Polarity	Cable Loss (dB)	Cable 2 Loss (dB)	Antenna Gain (dB)	ERP / EIRP Total (dBm)	Status
1880.500	36.93	-72.2	-13.0	59.7	H	2.25	2.63	5.40	-71.68	PASS
2350.600	38.11	-74.8	-13.0	62.7	V	2.55	2.00	5.40	-73.95	PASS
2821.300	38.34	-75.4	-13.0	63.3	H	2.70	3.15	6.70	-74.55	PASS
3263.800	38.33	-75.4	-13.0	63.4	V	3.20	3.44	7.60	-74.44	PASS
9808.900	41.92	-79.8	-13.0	70.2	V	5.50	4.09	13.00	-76.39	PASS

Test Information

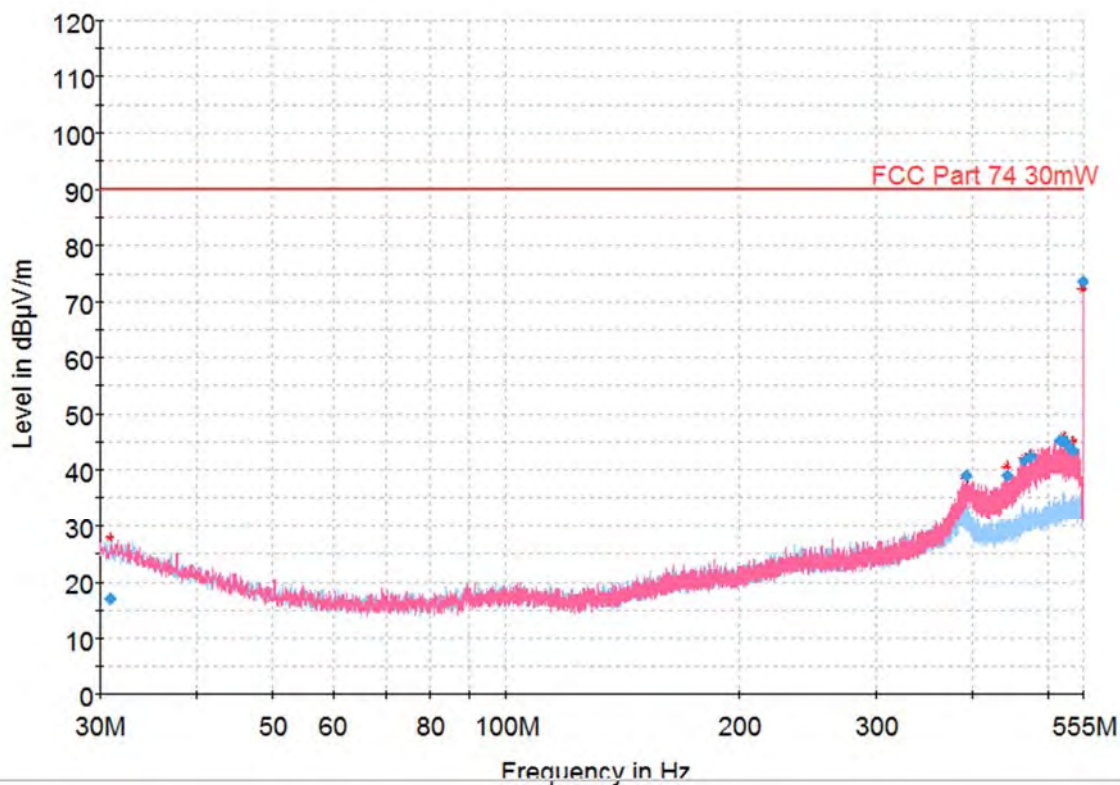
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 555MHz
Operating Conditions: 553.000MHz M @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w L23-26-01 Tuned Notch
Test Date & Time: October 25, 2016 11:47:09 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

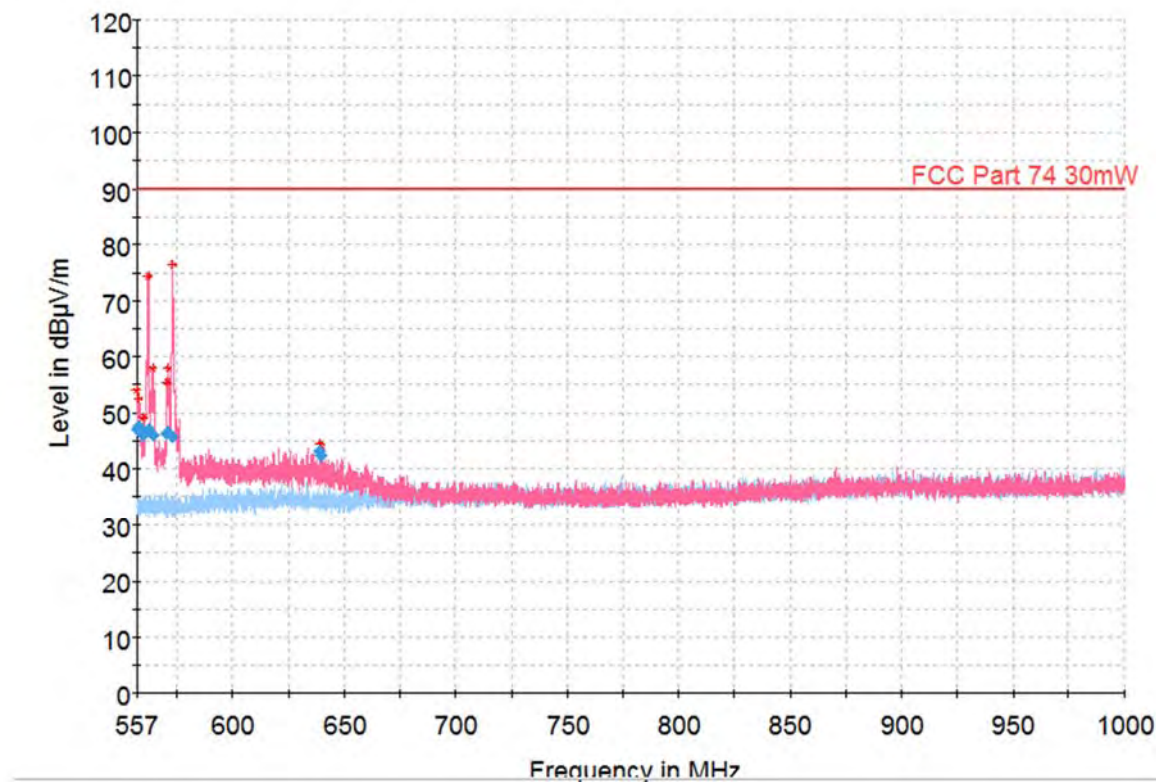
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 557 - 1000MHz
Operating Conditions: 553.000MHz M @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w/o L23-26-01 Tuned Notch
Test Date & Time: October 25, 2016 2:09:38 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

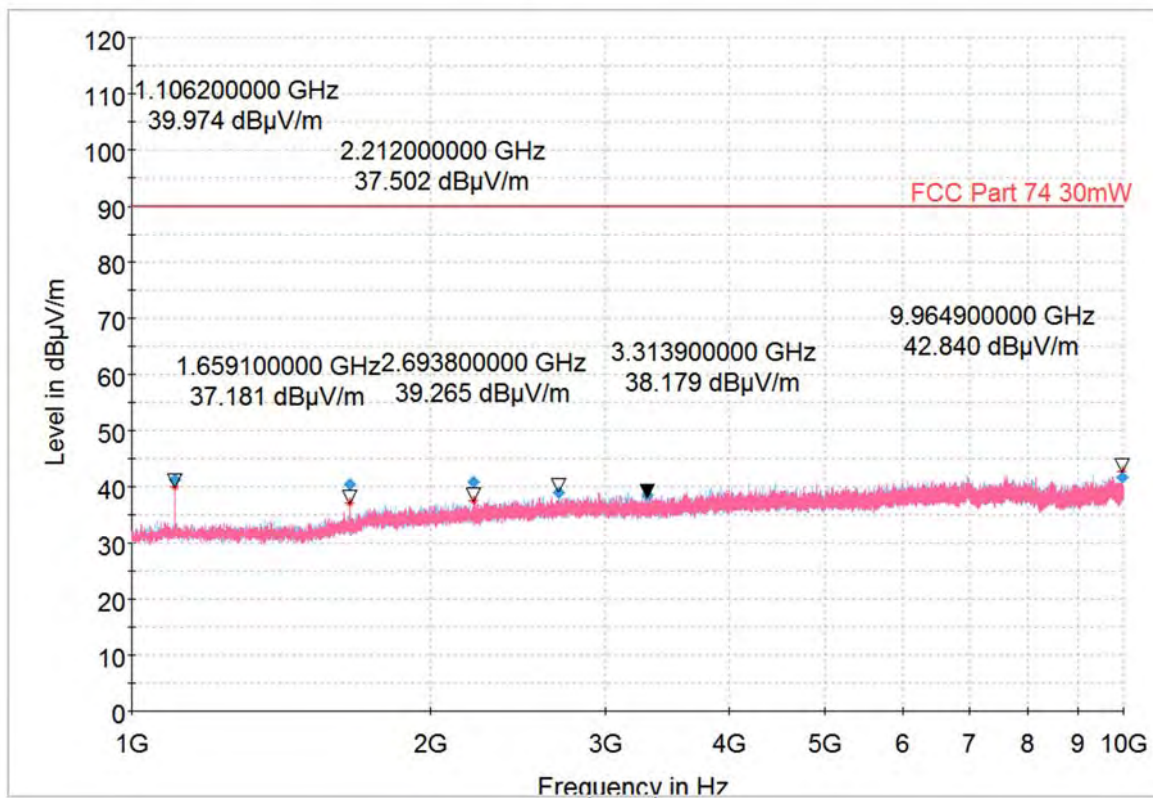
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 1GHz to 10GHz
Operating Conditions: 553.000MHz M @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
Test Date & Time: December 1, 2016 11:51:40 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum



Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
Operating Conditions: 553.000MHz M @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: October 25, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
30.963	17.03	84.38	72.970	20	120.00	230.000	H	1.00	16.50
391.078	38.97	84.38	51.030	20	120.00	119.000	V	53.00	18.00
442.388	39.07	84.38	50.930	20	120.00	111.000	V	76.00	18.70
465.960	41.77	84.38	48.230	20	120.00	111.000	V	279.00	19.90
475.515	42.27	84.38	47.730	20	120.00	100.000	V	-1.00	20.40
517.935	45.18	84.38	44.820	20	120.00	100.000	V	33.00	21.30
524.078	45.23	84.38	44.770	20	120.00	100.000	V	297.00	21.40
529.520	44.53	84.38	45.470	20	120.00	100.000	V	297.00	21.60
538.865	43.30	84.38	46.700	20	120.00	111.000	V	307.00	21.80
557.015	47.04	84.38	42.960	20	120.00	100.000	V	94.00	22.10
558.108	47.56	84.38	42.440	20	120.00	100.000	V	350.00	22.10
559.939	46.06	84.38	43.940	20	120.00	111.000	V	14.00	22.00
562.006	47.07	84.38	42.930	20	120.00	111.000	V	34.00	22.00
564.132	46.14	84.38	43.860	20	120.00	111.000	V	31.00	22.00
570.467	46.37	84.38	43.630	20	120.00	100.000	V	152.00	22.00
571.043	46.61	84.38	43.390	20	120.00	100.000	V	252.00	22.00
572.992	45.62	84.38	44.380	20	120.00	150.000	V	83.00	22.00
639.132	43.23	84.38	46.770	20	120.00	146.000	V	148.00	23.20
639.487	42.36	84.38	47.640	20	120.00	136.000	V	163.00	23.20
1105.900	41.36	84.38	48.640	1000	1000.00	108.000	V	267.00	-19.60
1659.100	40.43	84.38	49.570	1000	1000.00	150.000	V	118.00	-16.90
2212.000	40.90	84.38	49.100	1000	1000.00	160.000	H	312.00	-13.80
2693.800	38.95	84.38	51.050	1000	1000.00	193.000	V	82.00	-12.00
3313.900	38.58	84.38	51.420	1000	1000.00	379.000	V	1.00	-10.90
9964.900	41.68	84.38	48.320	1000	1000.00	182.000	H	22.00	-0.50

Appendix E

Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Radiated Emissions Matching
Operating Conditions: 553.000MHz M @ 35mW
Operator Name: Alex Stelmaszczyk, Tom Braxton & Mudassar Khan
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: May 5 – 10, 2017

Frequency MHz	Max Peak (dBμV/m)	Matched Power from Sig Gen	Limit (dBm)	Margin (dBm)	Polarity	Cable Loss (dB)	Cable 2 Loss (dB)	Antenna Gain (dB)	ERP / EIRP Total (dBm)	Status
559.939	46.06	-51.9	-13.0	36.2	V	1.35	1.40		-54.65	PASS
564.132	46.14	-51.4	-13.0	35.7	V	1.35	1.40		-54.15	PASS
570.467	46.37	-51.5	-13.0	35.8	V	1.35	1.40		-54.25	PASS
571.043	46.61	-51.4	-13.0	35.7	V	1.35	1.40		-54.15	PASS
557.015	47.04	-51.7	-13.0	36.0	V	1.35	1.40		-54.45	PASS
562.006	47.07	-50.8	-13.0	35.1	V	1.35	1.40		-53.55	PASS
558.108	47.56	-51.1	-13.0	35.4	V	1.35	1.40		-53.85	PASS
3313.900	38.58	-63.2	-13.0	51.1	V	3.30	3.40	7.60	-62.30	PASS
1659.100	40.43	-62.9	-13.0	50.7	V	2.25	2.44	5.50	-62.09	PASS
2212.000	40.90	-62.8	-13.0	49.5	H	2.45	2.85	5.00	-63.10	PASS
1105.900	41.36	-57.4	-13.0	42.2	V	2.10	2.02	1.90	-59.62	PASS

Test Information

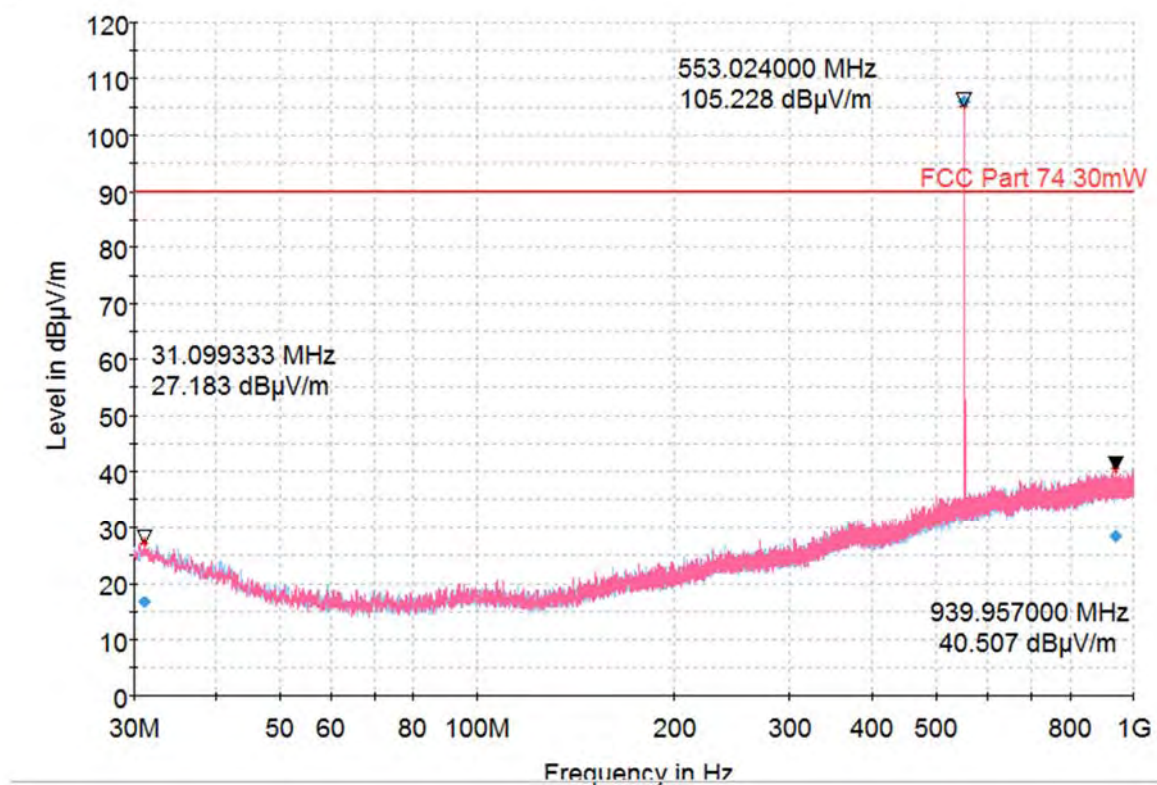
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 1GHz
Operating Conditions: 553.000MHz M @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input
Test Date & Time: October 21, 2016 10:39:45 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

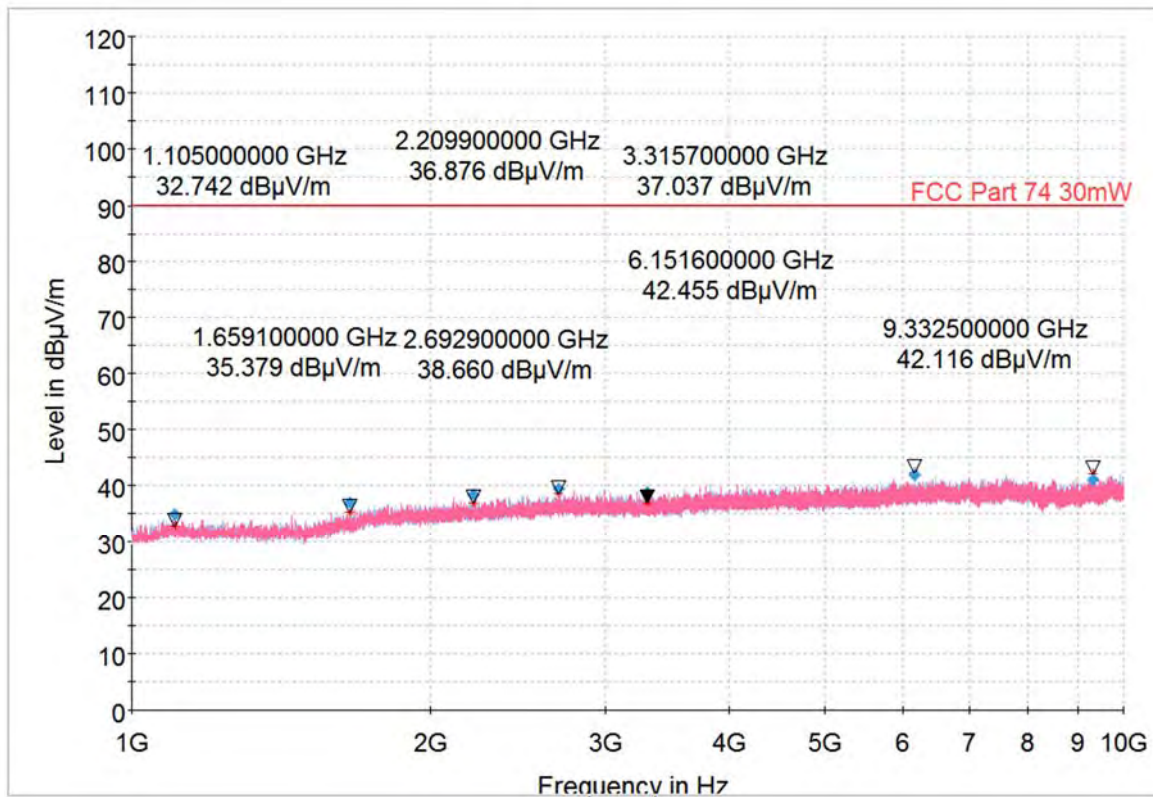
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 1GHz to 10GHz
Operating Conditions: 553.000MHz M @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
Test Date & Time: December 01, 2016 4:28:04 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum



Test Information

EUT Name: AD1 G55 #45
 Serial Number: TU162070085
 Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
 Operating Conditions: 553.000MHz M @ 2mW
 Operator Name: Alex Stelmaszczyk
 Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
 Test Date: October 21, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
31.099	16.70	84.38	73.300	20	120.00	350.000	H	140.00	16.40
939.957	28.48	84.38	61.520	20	120.00	232.000	V	45.00	26.10
1105.000	34.89	84.38	55.110	1000	1000.00	214.000	V	84.00	-19.60
1659.100	37.02	84.38	52.980	1000	1000.00	147.000	V	98.00	-16.90
2209.900	38.41	84.38	51.590	1000	1000.00	182.000	H	173.00	-13.80
2692.900	39.51	84.38	50.490	1000	1000.00	150.000	H	229.00	-12.00
3315.700	38.82	84.38	51.180	1000	1000.00	138.000	H	154.00	-10.90
6151.600	42.04	84.38	47.960	1000	1000.00	381.000	H	265.00	-5.10
9332.500	41.08	84.38	48.920	1000	1000.00	308.000	V	202.00	-1.50

Appendix E

Test Information

EUT Name: AD1 G55 #45
 Serial Number: TU162070085
 Test Description: FCC pt.74 & RSS-210 Radiated Emissions Matching
 Operating Conditions: 553.000MHz M @ 2mW
 Operator Name: Alex Stelmaszczyk, Tom Braxton & Mudassar Khan
 Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
 Test Date: May 5 – 10, 2017

Frequency MHz	Max Peak (dBμV/m)	Matched Power from Sig Gen	Limit (dBm)	Margin (dBm)	Polarity	Cable Loss (dB)	Cable 2 Loss (dB)	Antenna Gain (dB)	ERP / EIRP Total (dBm)	Status
1105.000	34.89	-75.4	-13.0	60.2	V	2.10	2.02	1.90	-77.62	PASS
1659.100	37.02	-72.6	-13.0	60.4	V	2.25	2.44	5.50	-71.79	PASS
2209.900	38.41	-59.2	-13.0	45.9	H	2.45	2.85	5.00	-59.50	PASS
2692.900	39.51	-67.1	-13.0	54.0	H	3.00	3.10	6.00	-67.20	PASS
3315.700	38.82	-71.1	-13.0	59.0	H	3.30	3.40	7.60	-70.20	PASS
6151.600	42.04	-67.4	-13.0	54.7	H	5.05	5.20	10.50	-67.15	PASS
9332.500	41.08	-71.6	-13.0	61.8	V	5.90	4.00	13.10	-68.40	PASS

Test Information

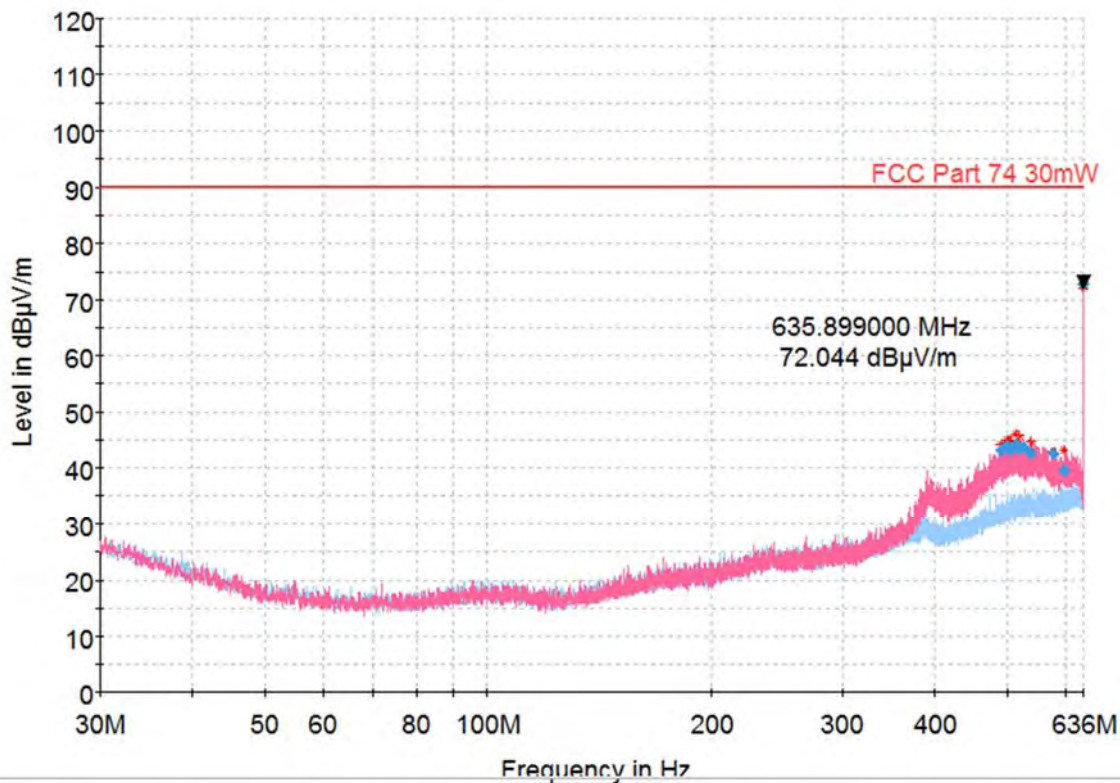
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 636MHz
Operating Conditions: 635.875MHz H @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w L23-26-01 Tuned Notch
Test Date & Time: October 21, 2016 3:51:03 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



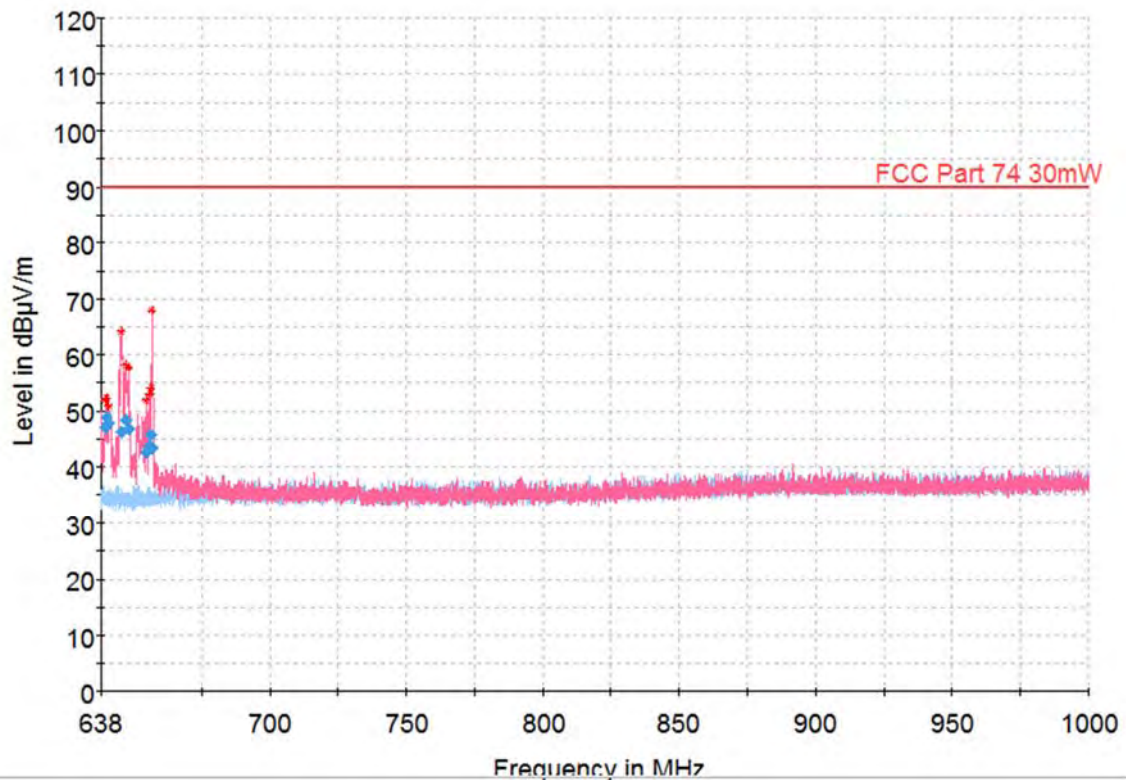
Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 638 - 1000MHz
Operating Conditions: 635.875MHz H @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input, w/o L23-26-01 Tuned Notch
Test Date & Time: October 25, 2016 11:04:29 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB
Full Spectrum					



Test Information

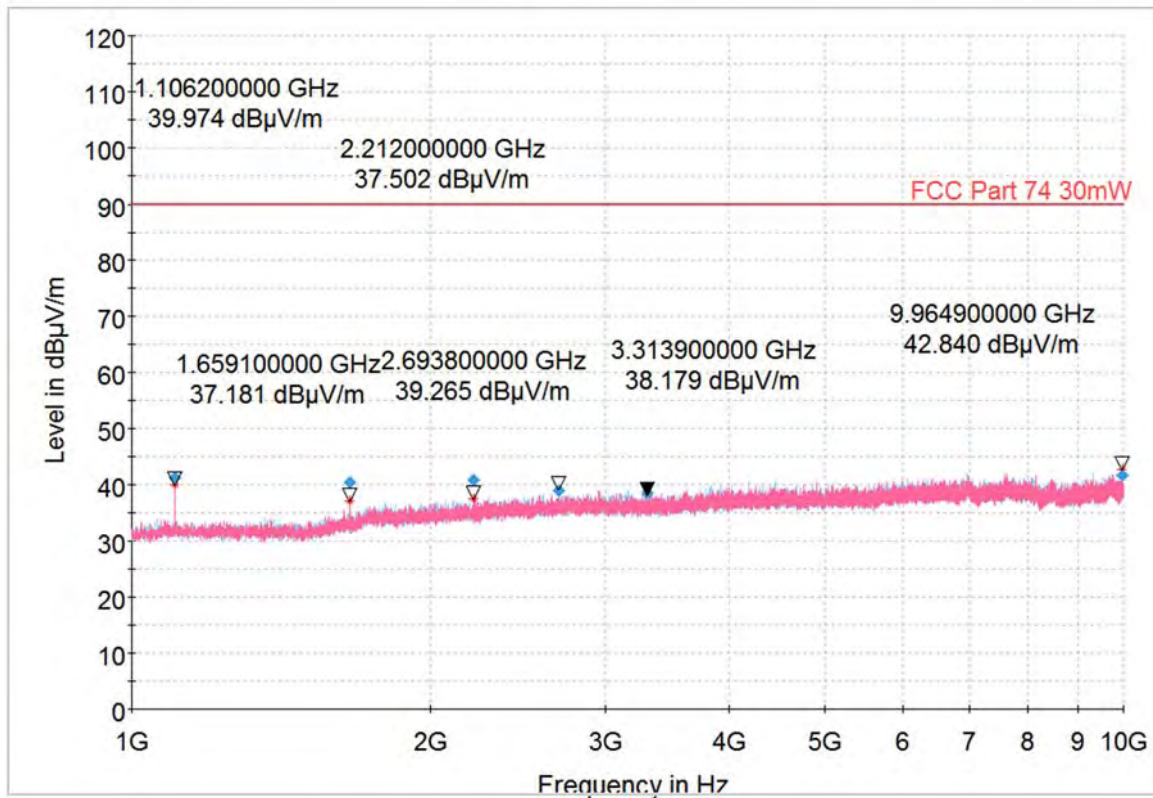
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 1GHz to 10GHz
Operating Conditions: 635.875MHz H @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
Test Date & Time: December 1, 2016 2:11:05 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
Level Unit: dBμV/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum





Appendix E

Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
Operating Conditions: 635.875MHz H @ 35mW
Operator Name: Alex Stelmaszczyk
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: October 21, 25, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
492.620	43.20	84.38	46.800	20	120.00	100.000	V	312.00	20.60
501.387	43.99	84.38	46.010	20	120.00	100.000	V	48.00	20.80
507.023	43.17	84.38	46.830	20	120.00	110.000	V	300.00	20.90
514.901	44.29	84.38	45.710	20	120.00	111.000	V	276.00	21.20
521.123	43.31	84.38	46.690	20	120.00	111.000	V	303.00	21.30
527.203	43.90	84.38	46.100	20	120.00	100.000	V	303.00	21.50
539.787	42.65	84.38	47.350	20	120.00	111.000	V	44.00	21.80
578.996	42.66	84.38	47.340	20	120.00	100.000	V	325.00	22.20
598.125	39.60	84.38	50.400	20	120.00	201.000	V	29.00	22.90
639.713	47.20	84.38	42.800	20	120.00	148.000	V	138.00	23.20
640.305	49.03	84.38	40.970	20	120.00	153.000	V	157.00	23.20
641.174	47.76	84.38	42.240	20	120.00	129.000	V	134.00	23.20
645.638	46.31	84.38	43.690	20	120.00	146.000	V	124.00	23.00
647.581	48.34	84.38	41.660	20	120.00	148.000	V	119.00	22.90
648.257	46.64	84.38	43.360	20	120.00	158.000	V	144.00	22.90
654.785	42.55	84.38	47.450	20	120.00	159.000	V	200.00	23.00
655.847	43.78	84.38	46.220	20	120.00	148.000	V	169.00	23.00
656.221	45.67	84.38	44.330	20	120.00	156.000	V	169.00	23.10
657.029	43.34	84.38	46.660	20	120.00	161.000	V	143.00	23.10
1272.100	38.57	84.38	51.430	1000	1000.00	142.000	V	125.00	-19.20
1907.800	45.93	84.38	44.070	1000	1000.00	340.000	V	27.00	-15.10
2544.400	38.84	84.38	51.160	1000	1000.00	175.000	H	99.00	-12.60
3168.700	38.66	84.38	51.340	1000	1000.00	232.000	H	54.00	-11.20
3815.800	40.40	84.38	49.600	1000	1000.00	319.000	V	206.00	-9.10
6992.500	41.26	84.38	48.740	1000	1000.00	137.000	H	39.00	-3.50

Appendix E

Test Information

EUT Name: AD1 G55 #45
 Serial Number: TU162070085
 Test Description: FCC pt.74 & RSS-210 Radiated Emissions Matching
 Operating Conditions: 635.875MHz H @ 35mW
 Operator Name: Alex Stelmaszczyk, Tom Braxton & Mudassar Khan
 Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
 Test Date: May 5 – 10, 2017

Frequency MHz	Max Peak (dBμV/m)	Matched Power from Sig Gen	Limit (dBm)	Margin (dBm)	Polarity	Cable Loss (dB)	Cable 2 Loss (dB)	Antenna Gain (dB)	ERP / EIRP Total (dBm)	Status
639.713	47.20	-44.5	-13.0	28.5	V	1.50	1.50		-47.50	PASS
640.305	49.03	-43.5	-13.0	27.5	V	1.50	1.50		-46.50	PASS
641.174	47.76	-41.2	-13.0	25.2	V	1.50	1.50		-44.20	PASS
645.638	46.31	-45.3	-13.0	29.3	V	1.50	1.50		-48.30	PASS
647.581	48.34	-44.0	-13.0	28.0	V	1.50	1.50		-47.00	PASS
648.257	46.64	-47.5	-13.0	31.5	V	1.50	1.50		-50.50	PASS
1272.100	38.57	-63.3	-13.0	49.5	V	2.10	2.64	3.90	-64.14	PASS
1907.800	45.93	-53.6	-13.0	41.1	V	2.30	2.64	5.40	-53.14	PASS
2544.400	38.84	-68.8	-13.0	56.6	H	2.60	2.64	6.00	-68.04	PASS
3168.700	38.66	-71.7	-13.0	59.2	H	3.05	3.44	7.00	-71.19	PASS
3815.800	40.40	-66.3	-13.0	54.0	V	3.65	4.03	8.40	-65.58	PASS

Test Information

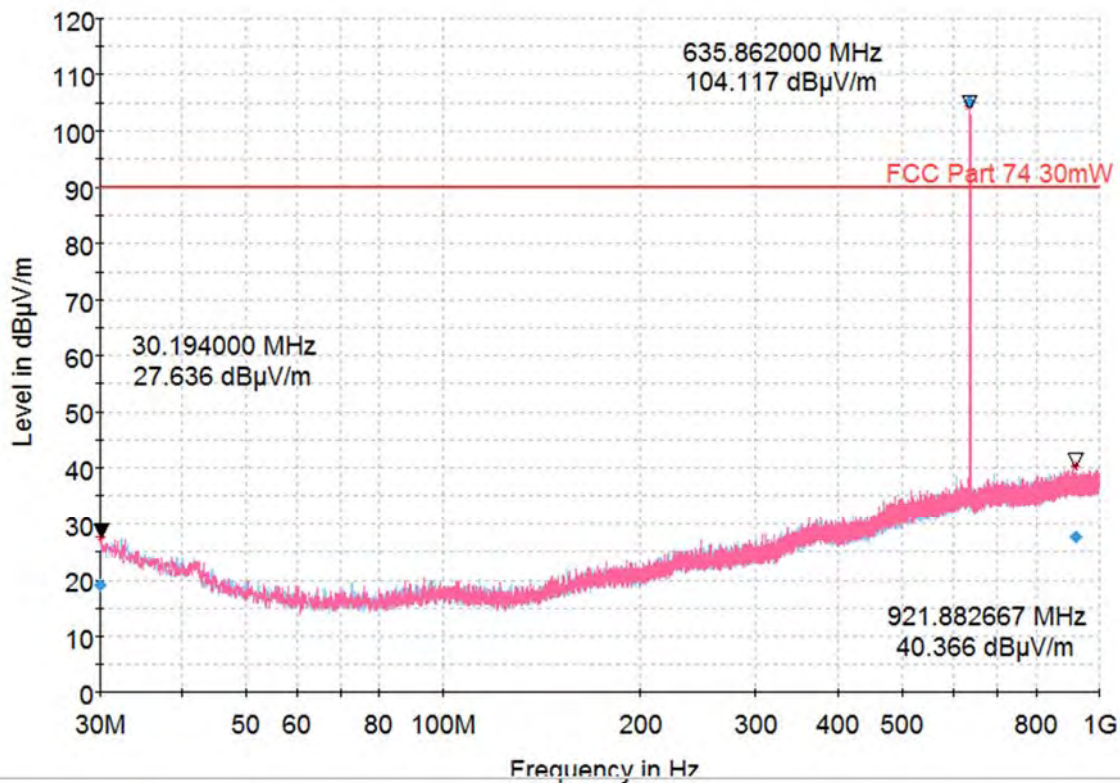
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 30MHz to 1GHz
Operating Conditions: 635.875MHz H @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, 3m, AAs, No Audio Input
Test Date & Time: October 21, 2016 11:50:42 AM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 Transmitter 30MHz to 1000MHz 34790

Hardware Setup: Electric Field Strength 34790 2016 06 03
Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamp
30 MHz - 1 GHz	30 kHz	PK+	120 kHz	0.02 s	20 dB

Full Spectrum



Test Information

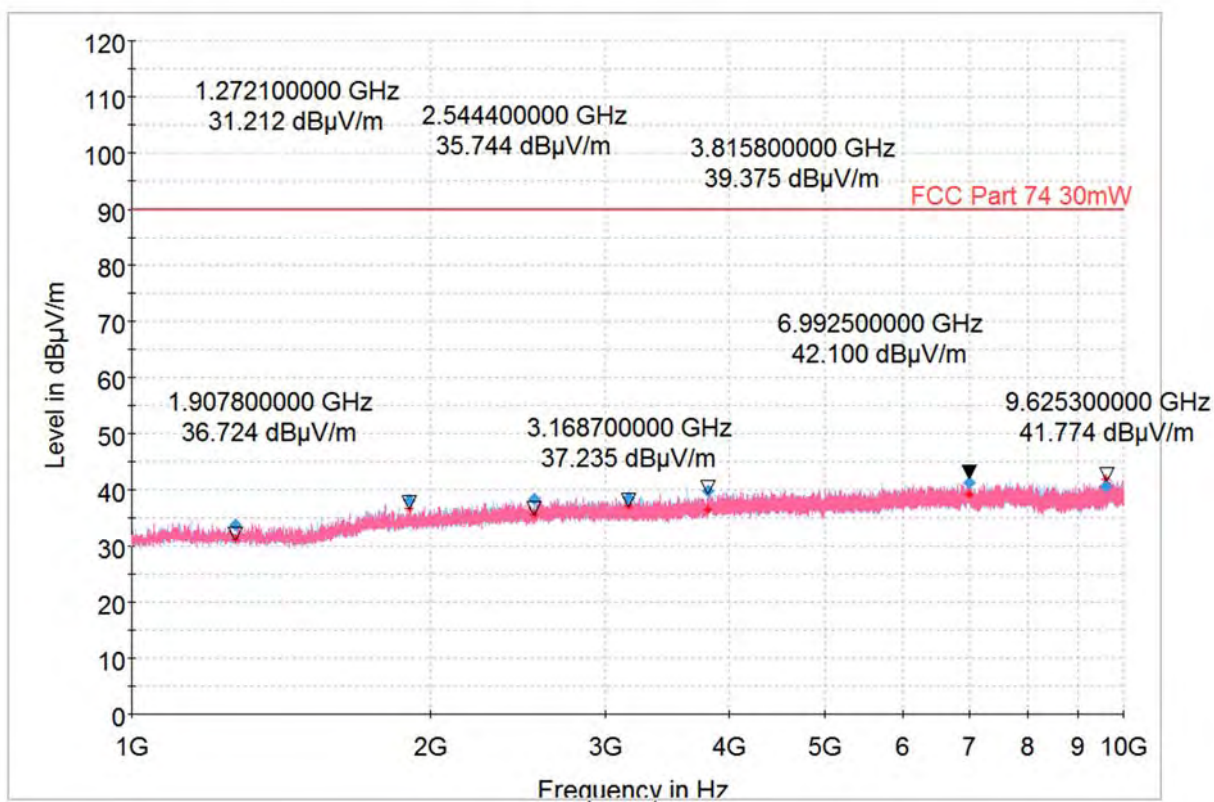
EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: Radiated RF Emissions 1GHz to 10GHz
Operating Conditions: 635.875MHz H @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: FCC pt. 74
Description: FCC Table, Bore Site, 3m, AAs, No Audio Input, w/ L23-11-57 940MHz HPF
Test Date & Time: December 01, 2016 3:25:28 PM

EMI Auto Test Template: Axient Digital COMPLIANCE TEST FCC 74 1GHz to 10GHz 3117-PA 206583 FCC

Hardware Setup: Electric Field Strength 10GHz 3117-PA 206583 2016 03 24
Level Unit: dB μ V/m

Subrange	Step Size	Detectors	IF BW	Meas. Time	Preamplifier
1 GHz - 10 GHz	250 kHz	PK+	1 MHz	1 s	20 dB

Full Spectrum





Test Information

EUT Name: AD1 G55 #45
Serial Number: TU162070085
Test Description: FCC pt.74 & RSS-210 Spurious Radiated Emissions
Operating Conditions: 635.875MHz H @ 2mW
Operator Name: Alex Stelmaszczyk
Comment: Horizontal and Vertical Antennae 30MHz – 10GHz
Test Date: October 21, 2016 & December 1, 2016

Frequency MHz	Max Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Measure Time (ms)	Bandwidth (kHz)	Height (cm)	Polarity	Azimuth (deg)	Correction (dB)
30.162	19.03	84.38	70.970	20	120.00	250.000	V	10.00	16.90
921.883	27.71	84.38	62.290	20	120.00	346.000	H	189.00	26.00
1272.100	33.91	84.38	56.090	1000	1000.00	138.000	H	253.00	-19.20
1907.800	38.20	84.38	51.800	1000	1000.00	361.000	V	147.00	-15.10
2544.400	38.47	84.38	51.530	1000	1000.00	228.000	H	109.00	-12.60
3168.700	38.63	84.38	51.370	1000	1000.00	235.000	V	176.00	-11.20
3815.800	39.76	84.38	50.240	1000	1000.00	365.000	H	193.00	-9.10
6992.500	41.37	84.38	48.630	1000	1000.00	103.000	V	45.00	-3.50
9595.900	40.75	84.38	49.250	1000	1000.00	283.000	V	133.00	-1.50