



# Appendix A1: Transmitter Output Power

## 1 Result Table

### 1.1 Channel Power, Total

NOTE 1: If applicable, the EIRP [W] =  $10^{((\text{Channel Power [dBm]} + \text{Antenna Gain [dBi]} / 10 - 3)}$ , and the ERP [W] = EIRP [W] / 1.64.

NOTE 2: When the EUT is put into service, the practical maximum antenna gain may exceed the value as described below, and if exceed, the combination of the practical output power and the practical antenna gain should NOT exceed the required ERP/EIRP limit.

EUT Conf.	Channel Power [dBm]	Antenna Gain [dBi]	EIRP [W]	ERP [W]	Verdict
5M_B	19.96	4	---	---	---
5M_M	20.51	4	---	---	---
5M_T	20.29	4	---	---	---
10M_B	19.85	4	---	---	---
10M_M	20.43	4	---	---	---
10M_T	19.98	4	---	---	---
15M_B	20.25	4	---	---	---
15M_M	20.58	4	---	---	---
15M_T	20.25	4	---	---	---
20M_B	20.34	4	---	---	---
20M_M	20.45	4	---	---	---
20M_T	20.11	4	---	---	---
1U_B	23.04	4	---	---	---
1U_M	23.52	4	---	---	---
1U_T	23.44	4	---	---	---
2U_B	19.66, 20.31	4	---	---	---
2U_M	20.87, 20.38	4	---	---	---
2U_T	20.55, 20.4	4	---	---	---

### 1.2 Power Spectral Density

NOTE 1: If applicable, the EIRP [W/MHz] =  $10^{((\text{Power Spectral Density [dBm/MHz]} + \text{Antenna Gain [dBi]} / 10 - 3)}$ , and the ERP [W/MHz] = EIRP [W/MHz] / 1.64.

NOTE 2: When the EUT is put into service, the practical maximum antenna gain may exceed the value as described below, and if exceed, the combination of the practical output power and the practical antenna gain should NOT exceed the required EIRP limit.



EUT Conf.	Power Spectral Density [dBm/MHz]	Antenna Gain [dBi]	EIRP [W/MHz]	Verdict
5M_B	13.98	4	0.06	Pass
5M_M	14.31	4	0.07	Pass
5M_T	14.12	4	0.06	Pass
1U_B	17.67	4	0.15	Pass
1U_M	17.98	4	0.16	Pass
1U_T	17.9	4	0.15	Pass

### 1.3 Peak-to-Average Ratio

EUT Conf.	Peak-to-Average Ratio [dB]	Verdict
5M_B	7.62	Pass
5M_M	7.62	Pass
5M_T	7.59	Pass
1U_B	7.48	Pass
1U_M	7.54	Pass
1U_T	7.52	Pass

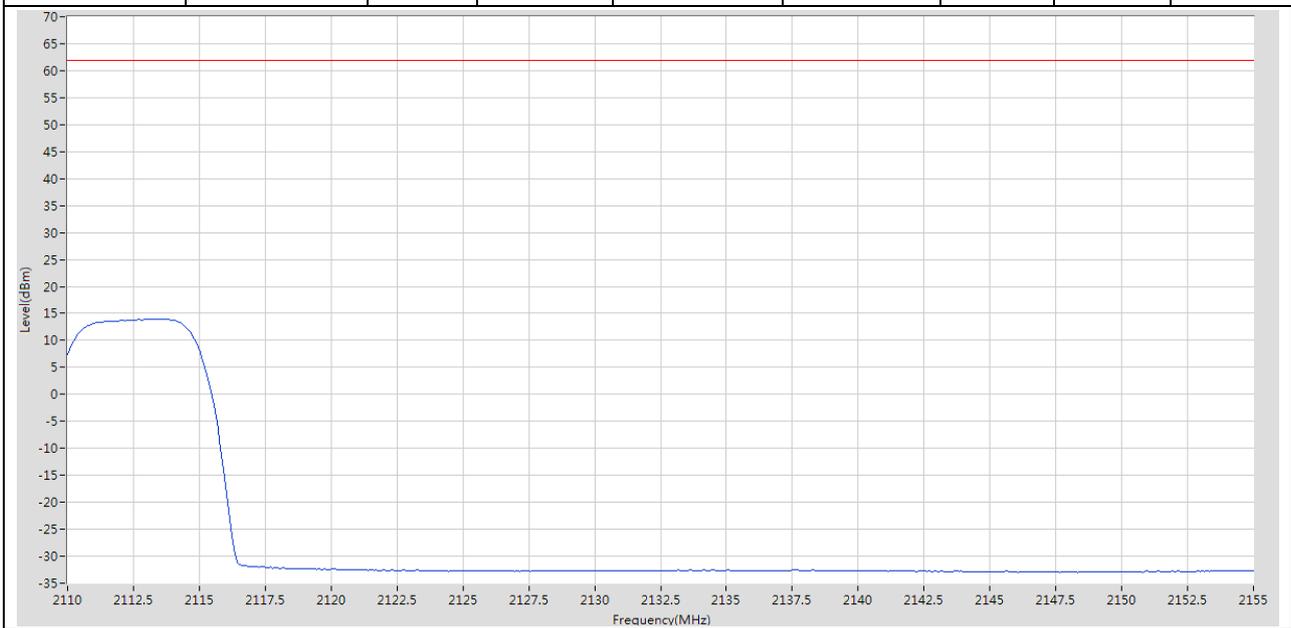
## 2 Test Plot

NOTE: Only the test plots for the measurements of Spectral Density and Peak-to-Average Ratio are supplied.

### 2.1 Power Spectral Density

#### 2.1.1 5M\_B

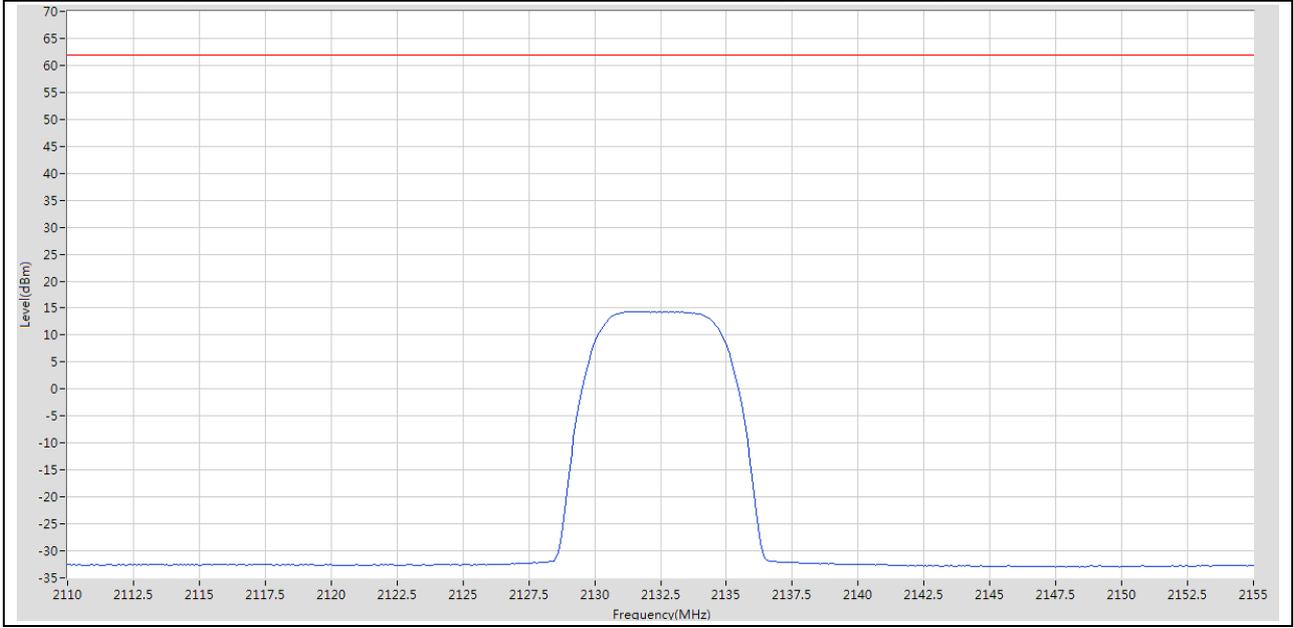
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2113.375 M	13.98	62	Pass	601





### 2.1.2 5M\_M

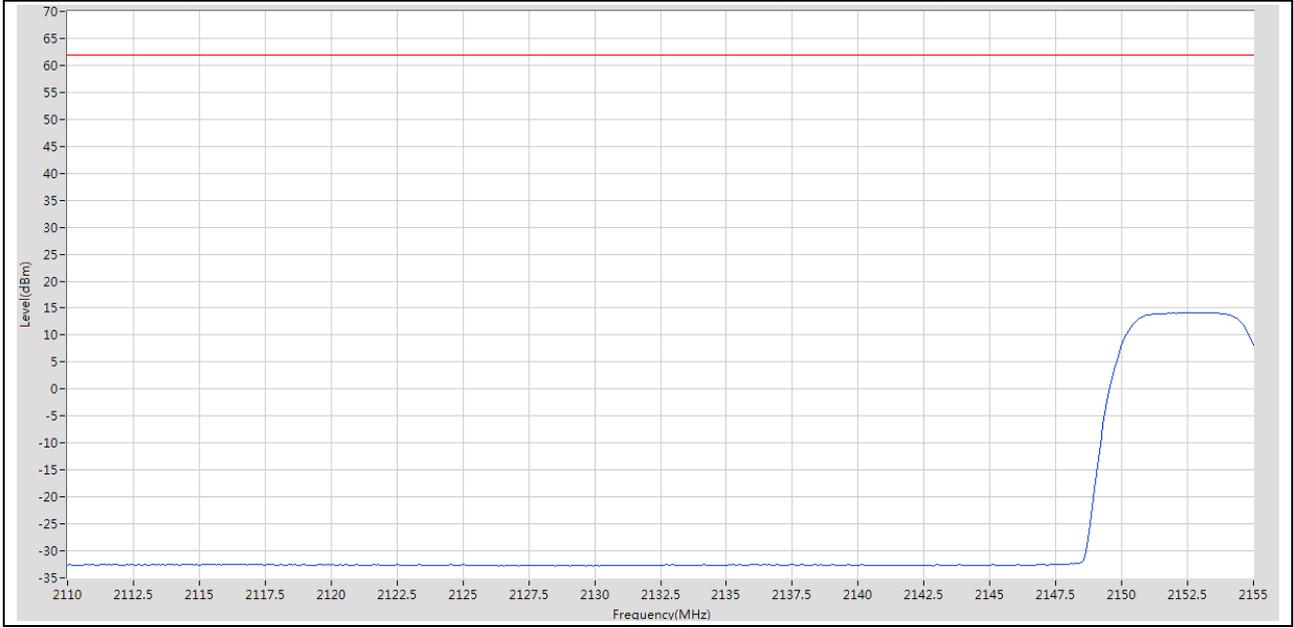
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2131.6 M	14.31	62	Pass	601





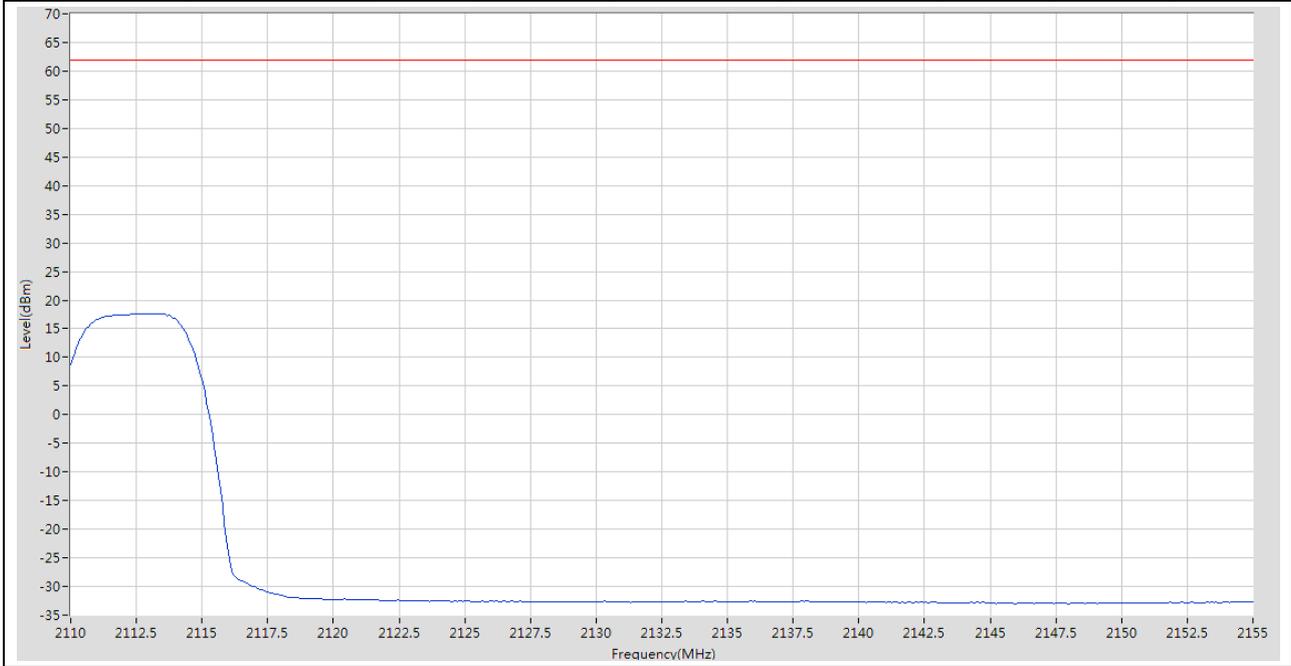
### 2.1.3 5M\_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2153.2 M	14.12	62	Pass	601



### 2.1.4 1U\_B

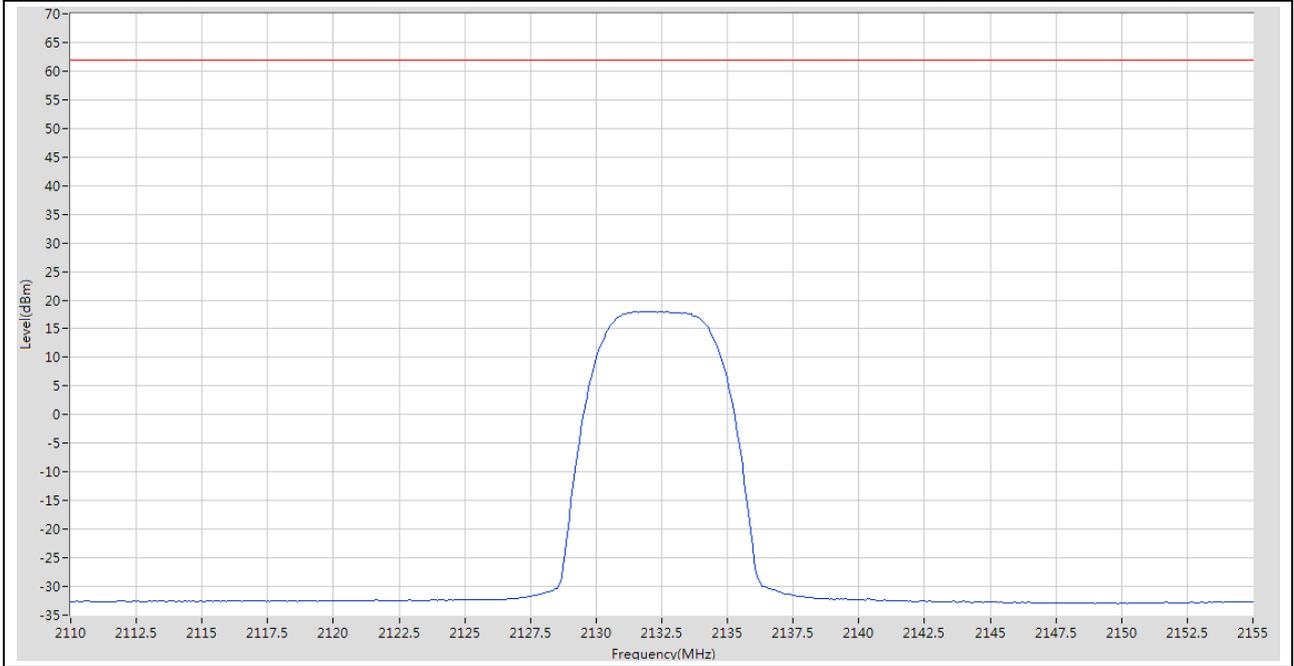
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2113.3 M	17.67	62	Pass	601





### 2.1.5 1U\_M

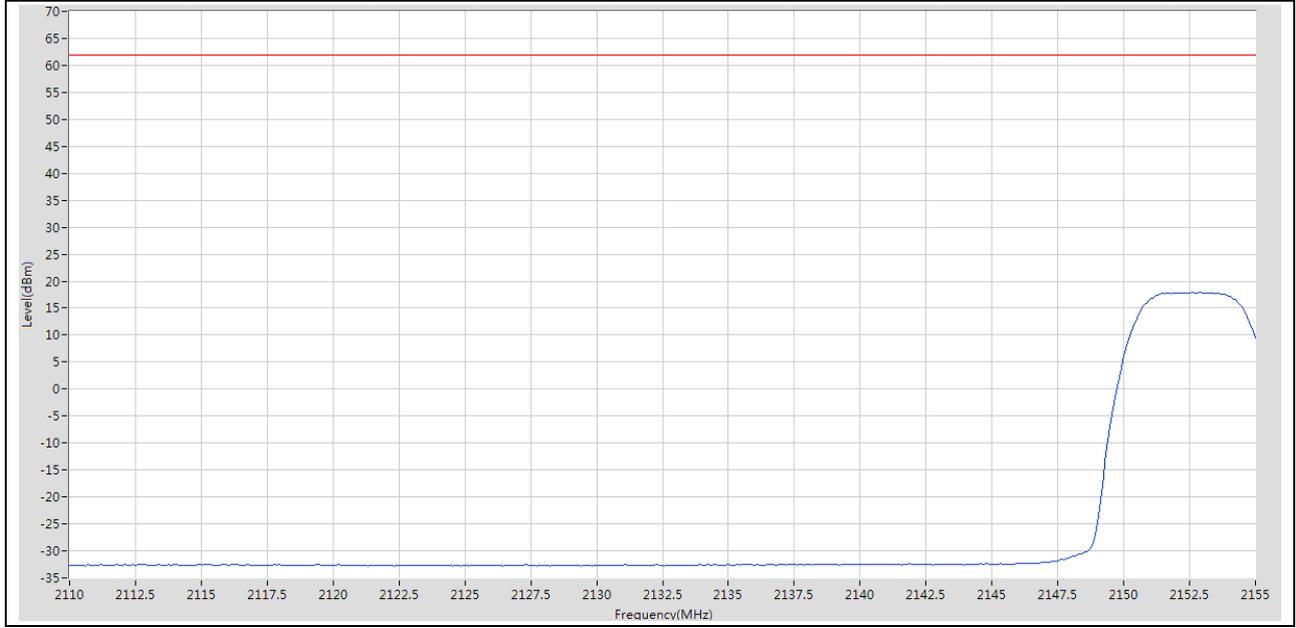
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2131.45 M	17.98	62	Pass	601





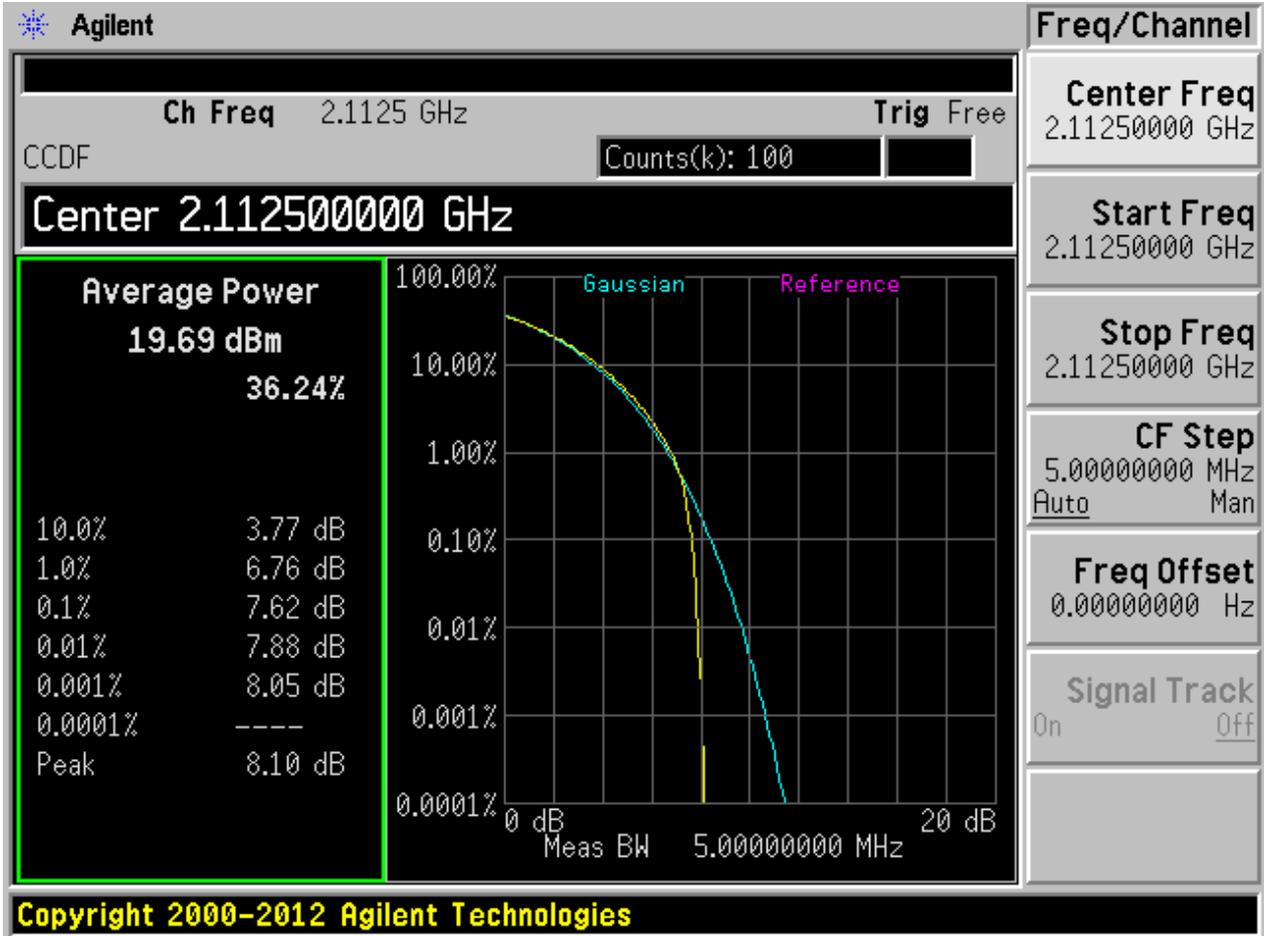
### 2.1.6 1U\_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
2110	2155	1	RMS	2152.6 M	17.9	62	Pass	601



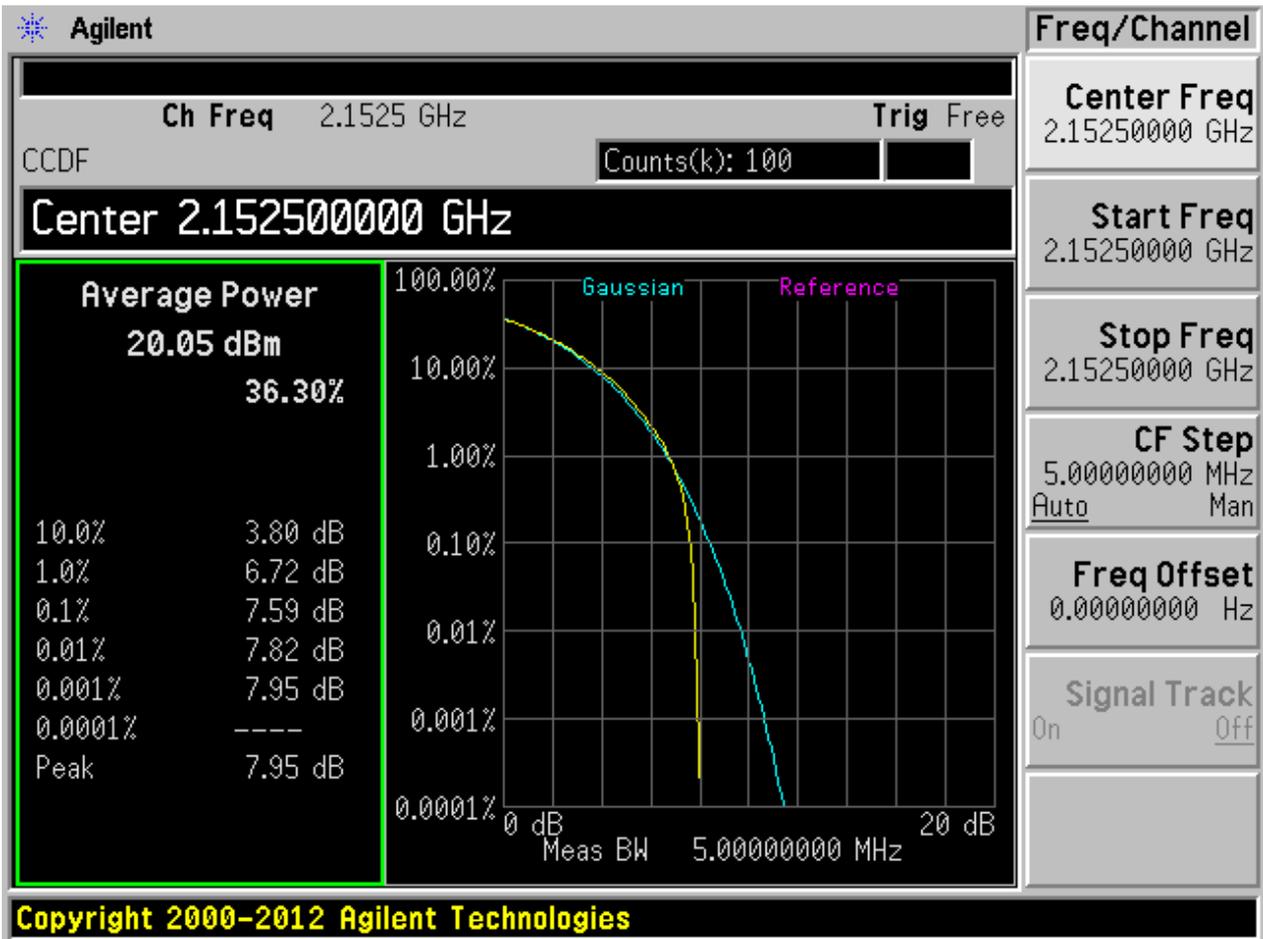
## 2.2 Peak-to-Average Ratio

### 2.2.1 5M\_B

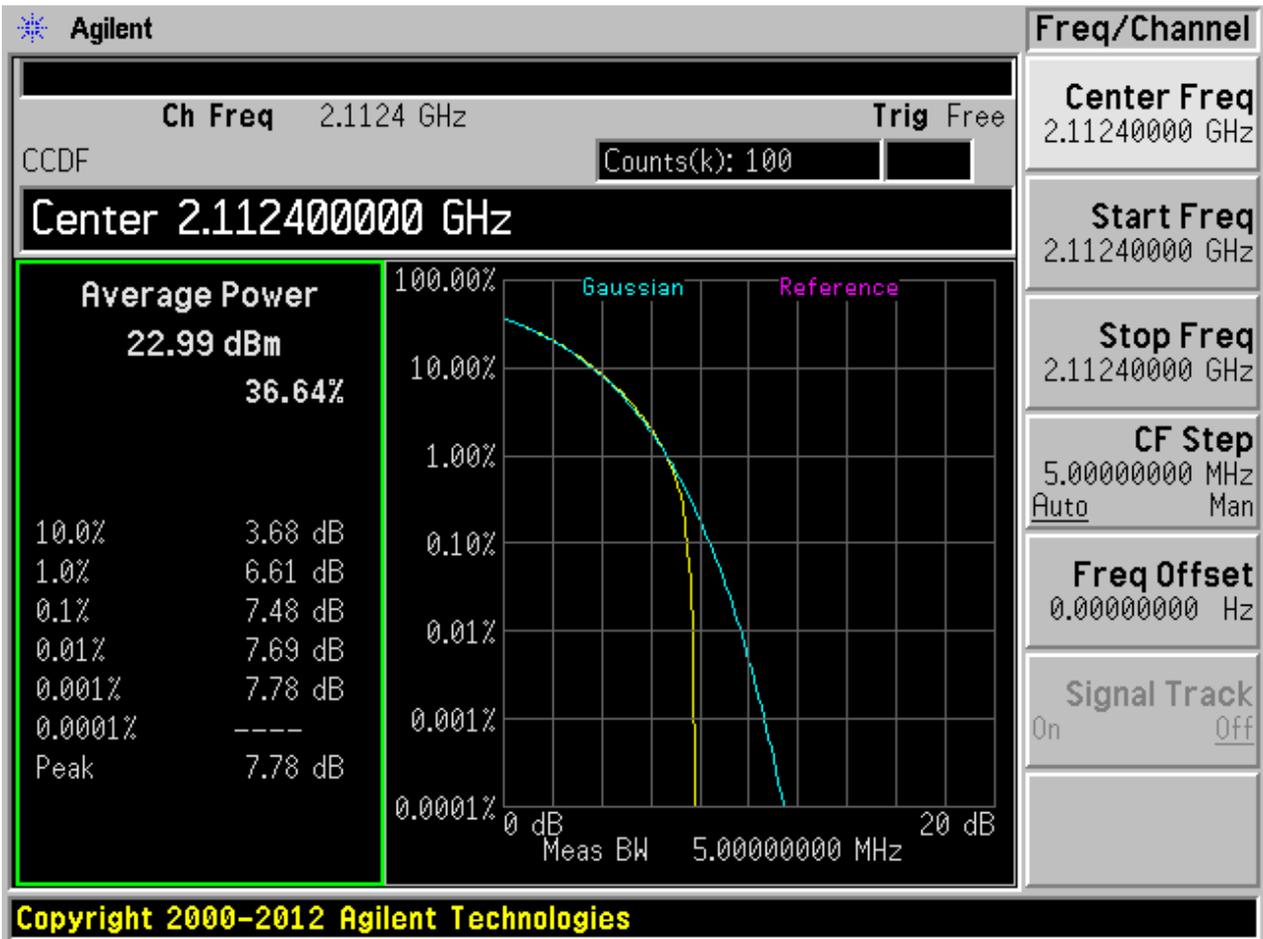




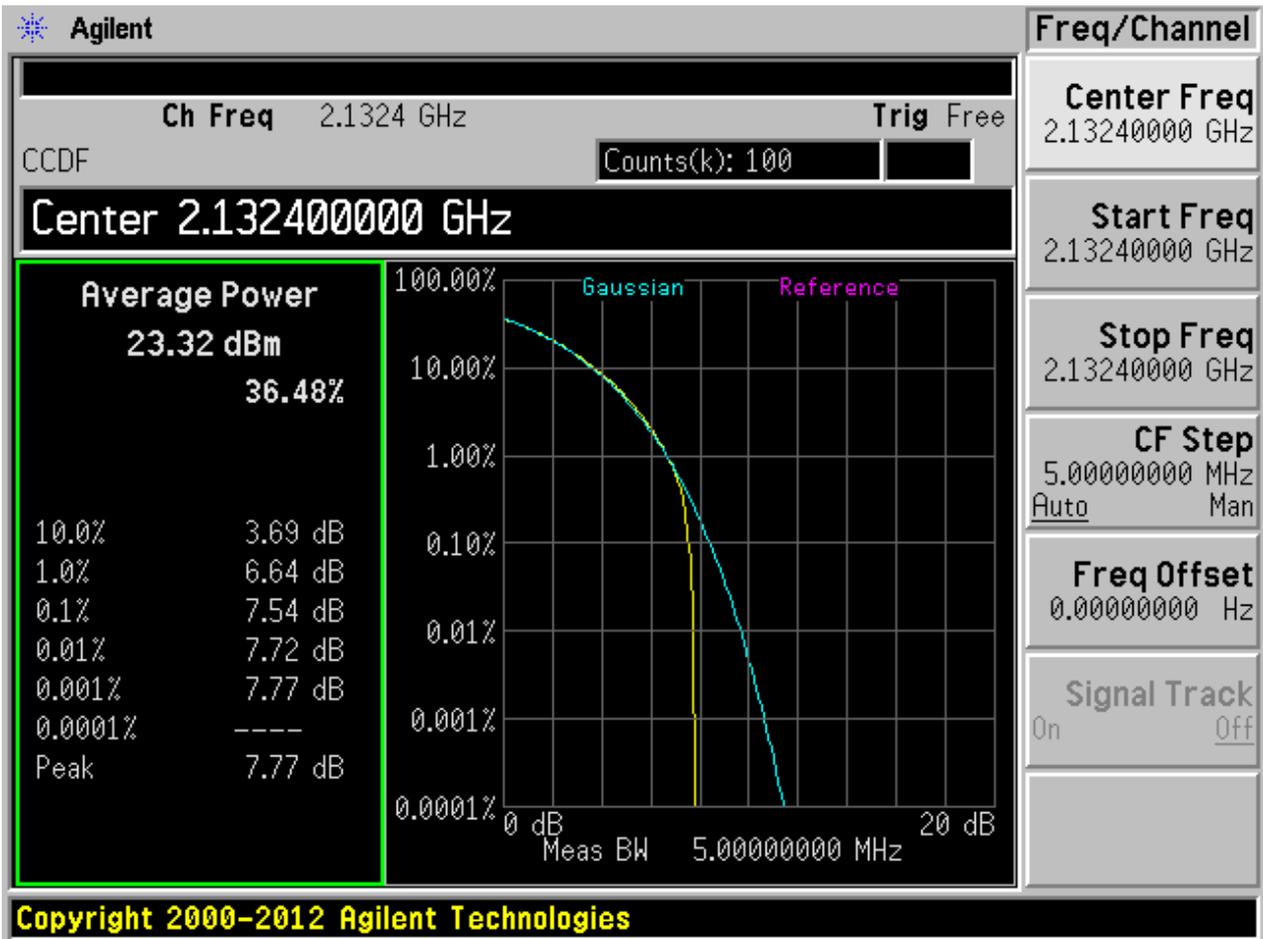
2.2.3 5M\_T



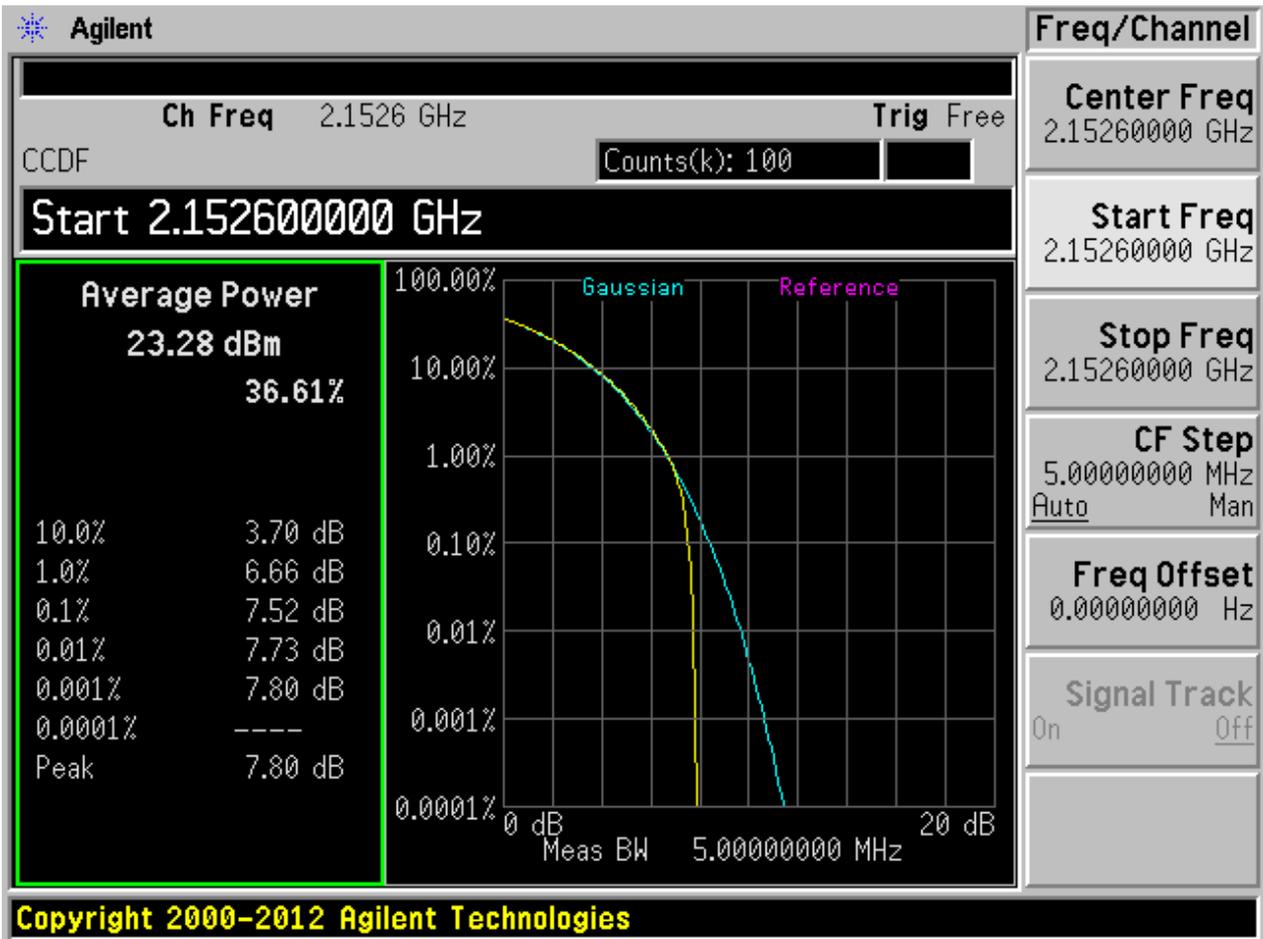
2.2.4 1U\_B



2.2.5 1U\_M



2.2.6 1U\_T





# Appendix B1: Bandwidth



## 1 Result Table

### 1.1 Occupied Bandwidth

EUT Conf.	Occupied Bandwidth [MHz]	Verdict
5M_B	4.483501	---
5M_M	4.487942	---
5M_T	4.483184	---
10M_B	8.968001	---
10M_M	8.967173	---
10M_T	8.969608	---
15M_B	13.44155	---
15M_M	13.44892	---
15M_T	13.47194	---
20M_B	17.88136	---
20M_M	17.893	---
20M_T	17.91678	---
1U_B	4.194481	---
1U_M	4.155702	---
1U_T	4.165216	---

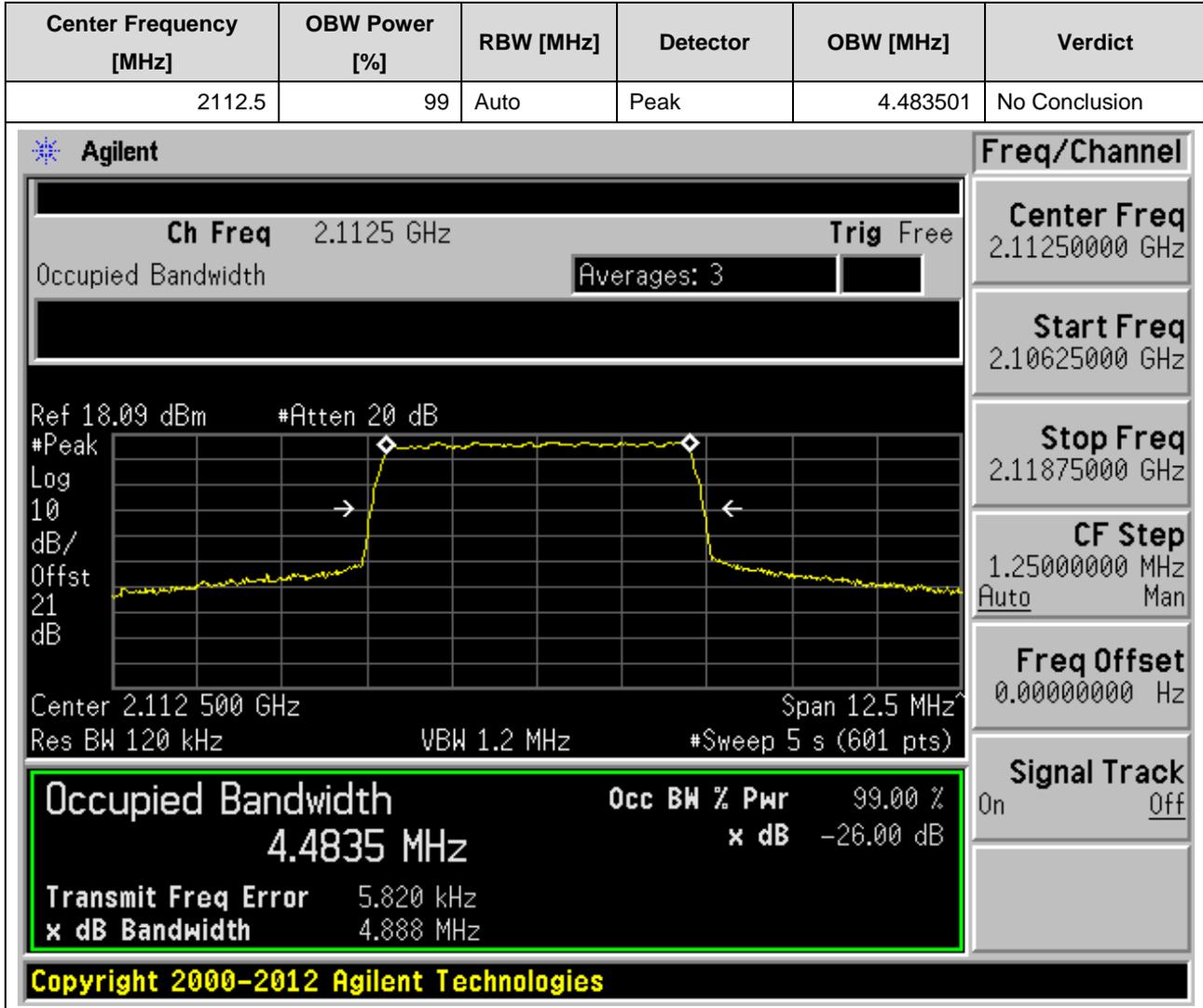
### 1.2 Emission Bandwidth

EUT Conf.	Emission Bandwidth, -26 dBc [MHz]	Emission Bandwidth, -20 dBc [MHz]	Verdict
5M_B	4.77376	---	---
5M_M	4.77376	---	---
5M_T	4.773888	---	---
10M_B	9.353728	---	---
10M_M	9.353728	---	---
10M_T	9.353856	---	---
15M_B	13.883648	---	---
15M_M	13.923712	---	---
15M_T	13.933696	---	---
20M_B	18.453632	---	---
20M_M	18.463744	---	---
20M_T	18.493824	---	---
1U_B	4.663808	---	---
1U_M	4.69376	---	---
1U_T	4.69376	---	---

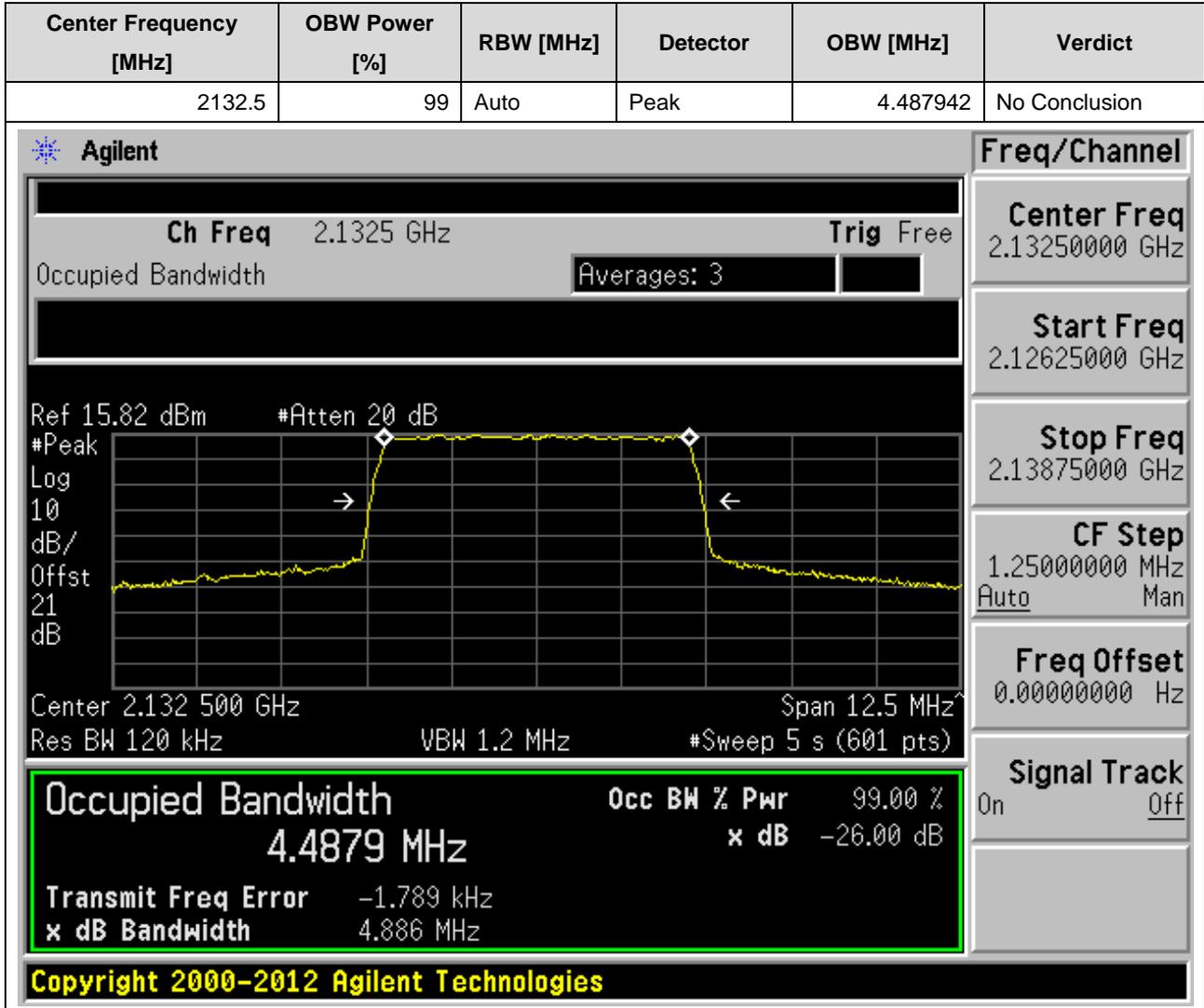
## 2 Test Plot

### 2.1 Occupied Bandwidth

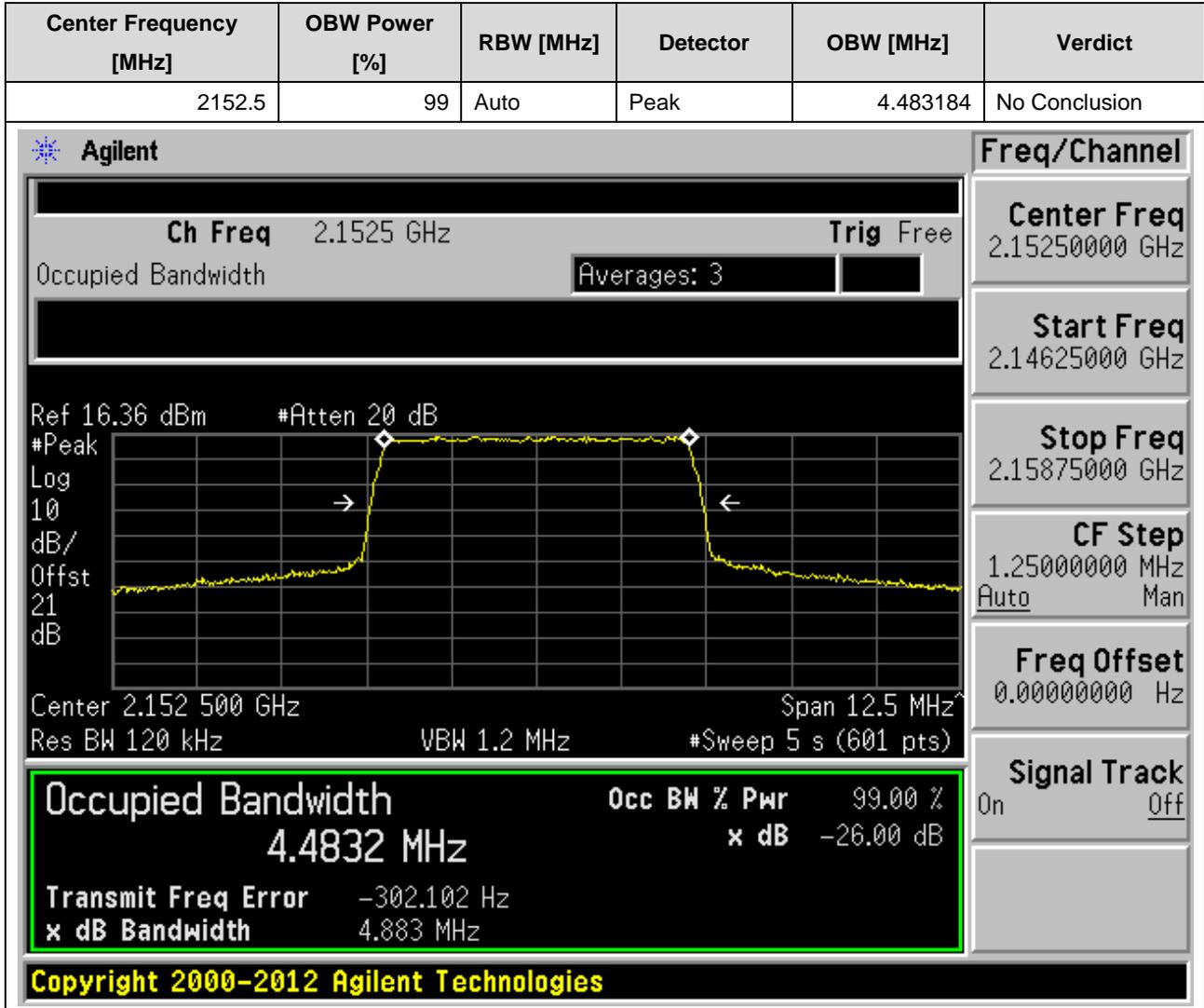
#### 2.1.1 5M\_B



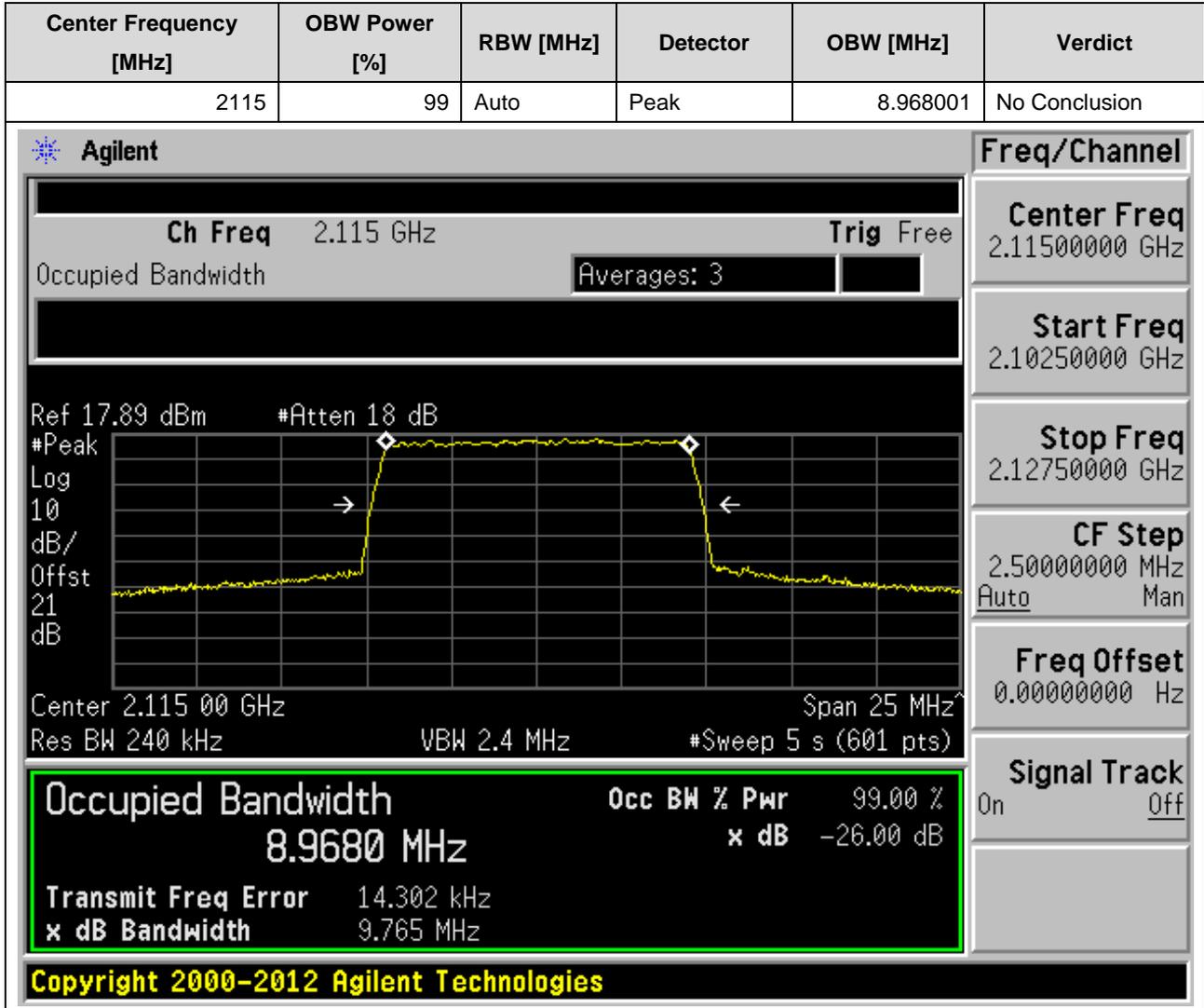
2.1.2 5M\_M



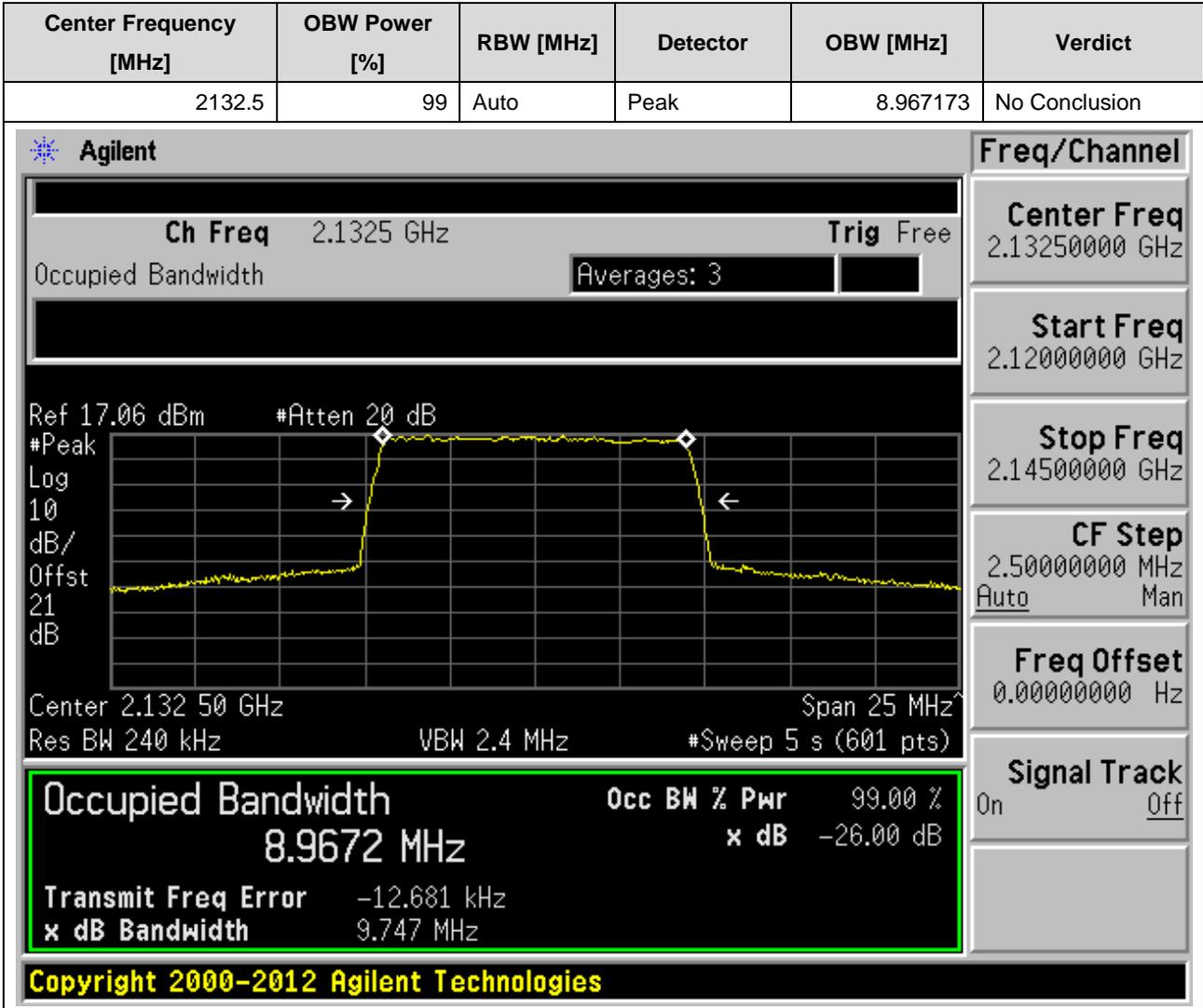
2.1.3 5M\_T



2.1.4 10M\_B

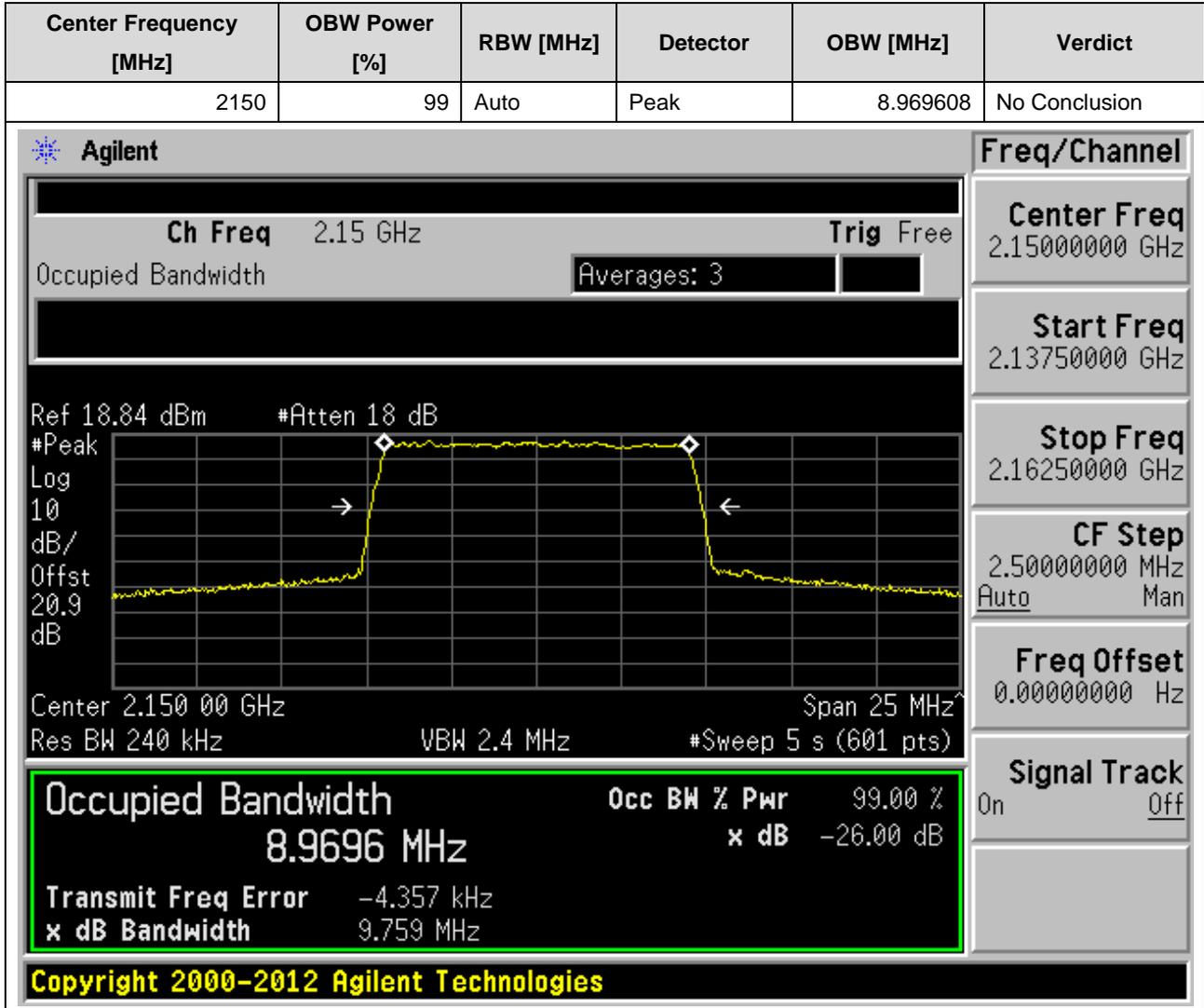


2.1.5 10M\_M



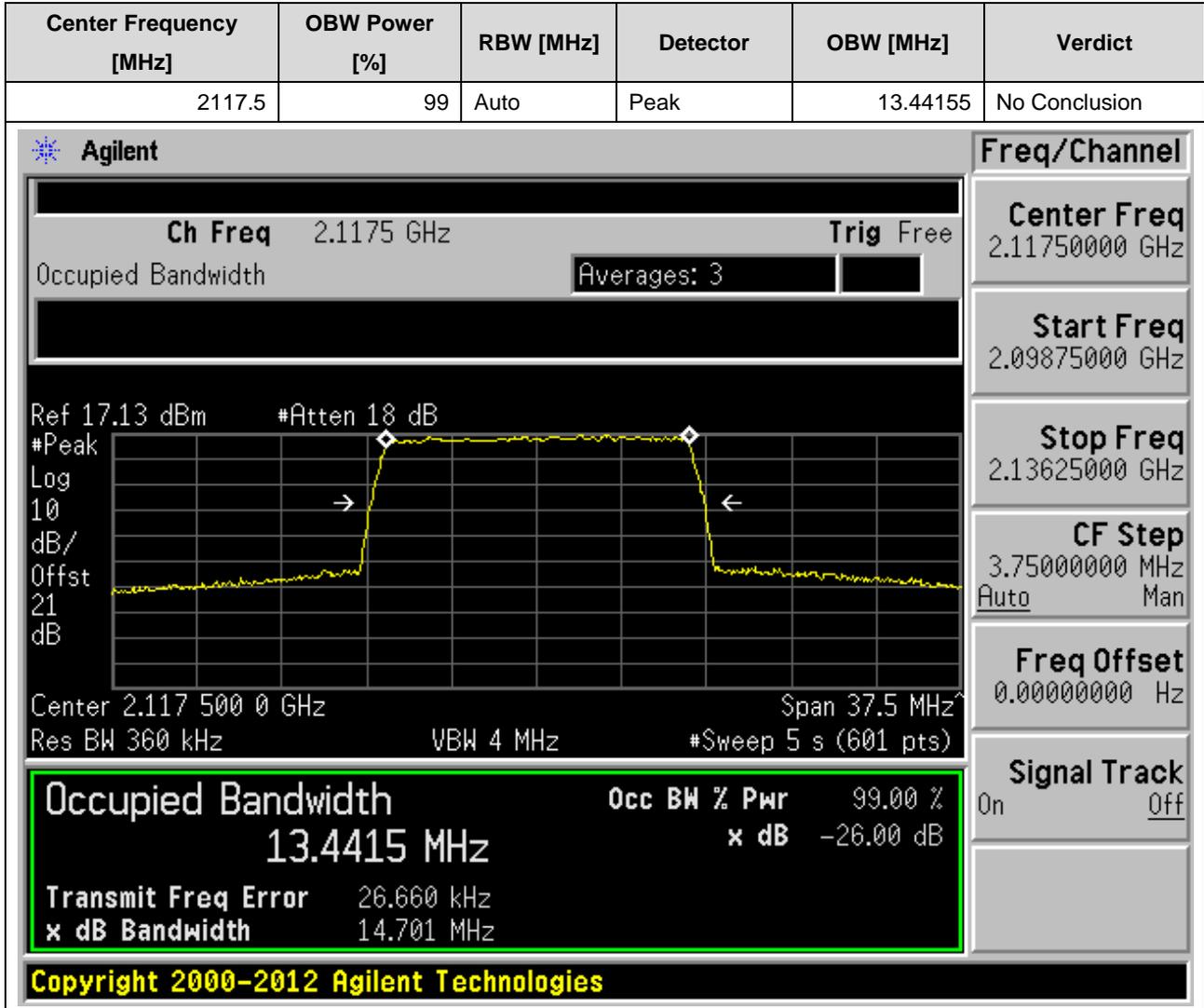


2.1.6 10M\_T



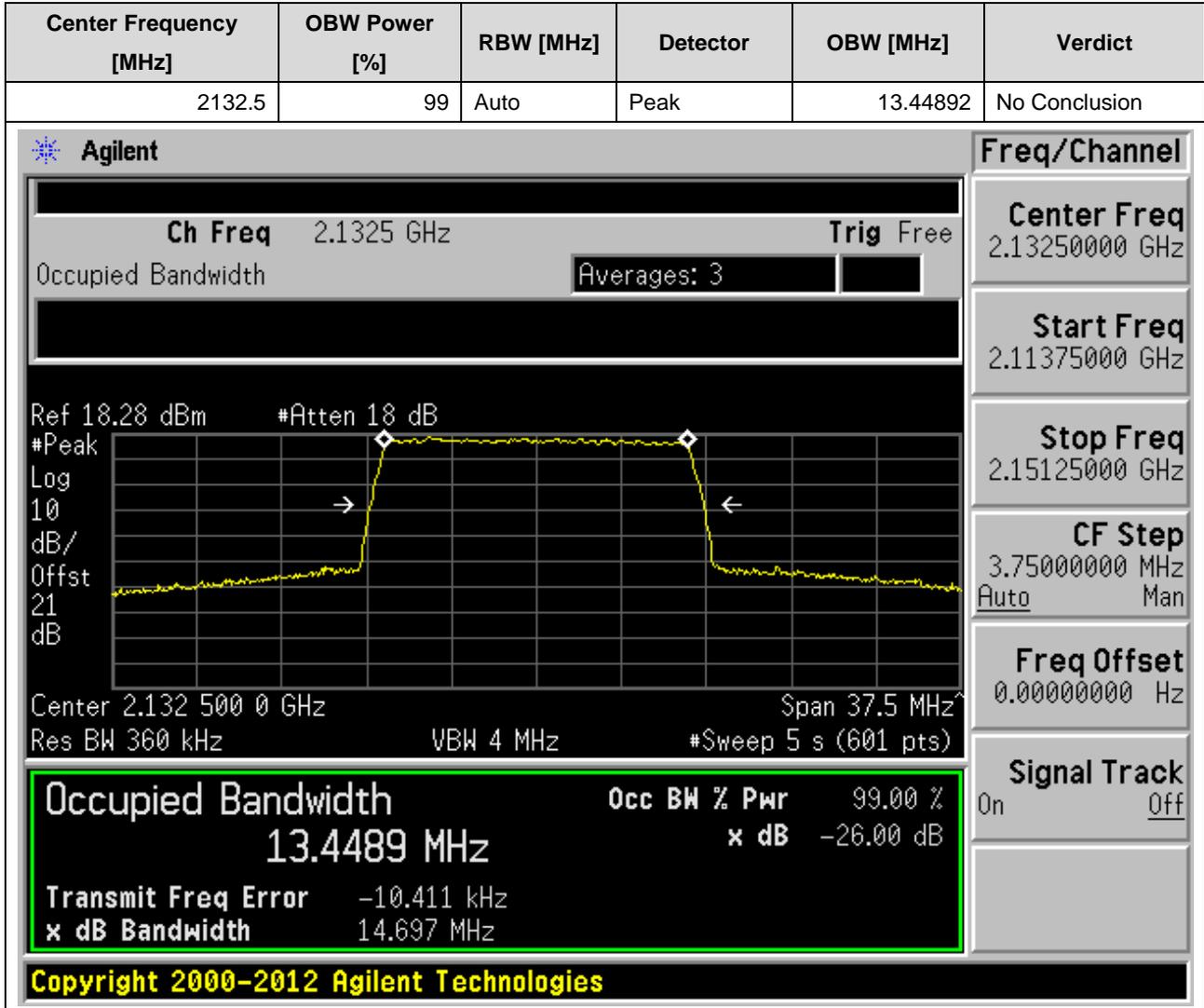


2.1.7 15M\_B



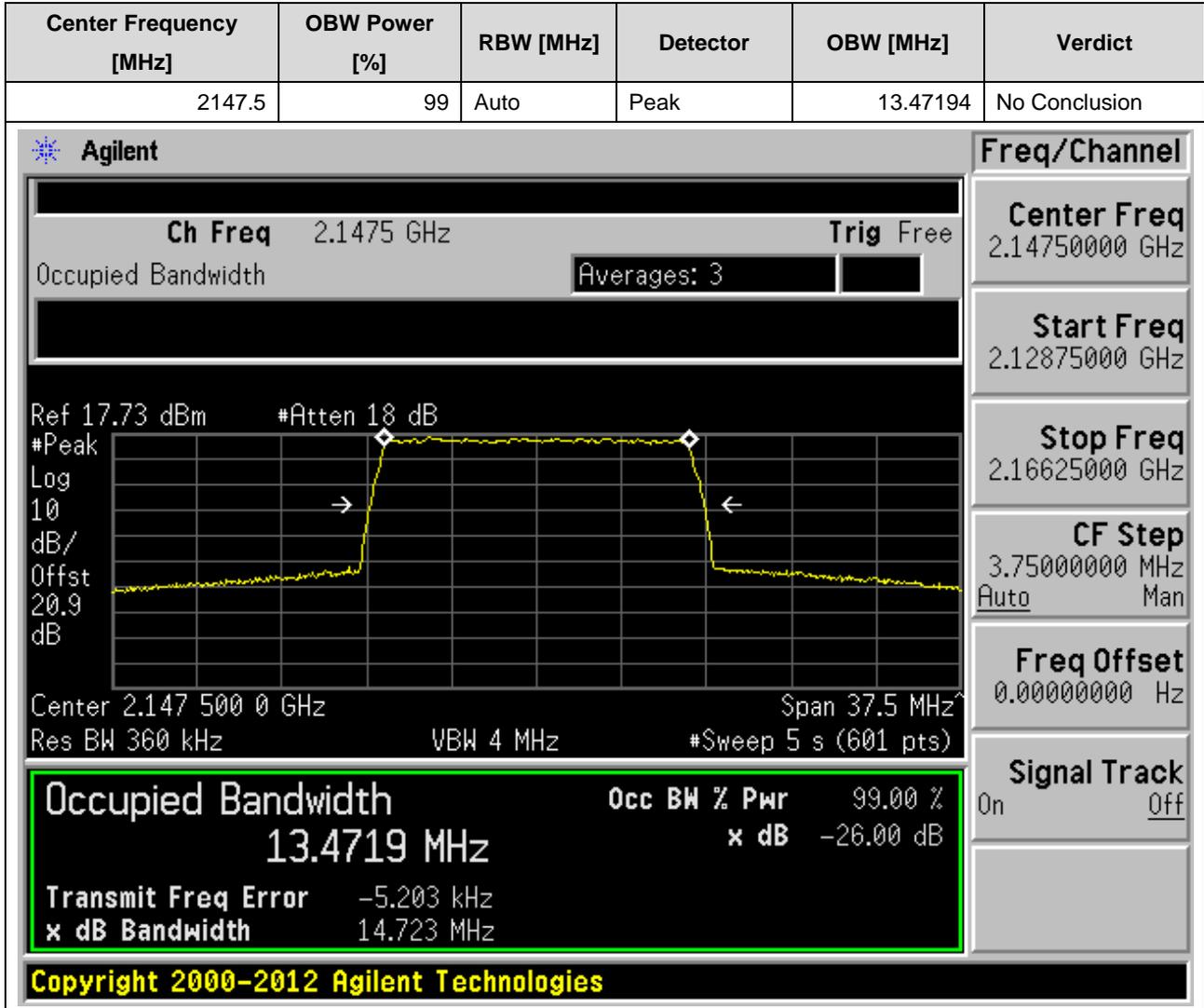


2.1.8 15M\_M



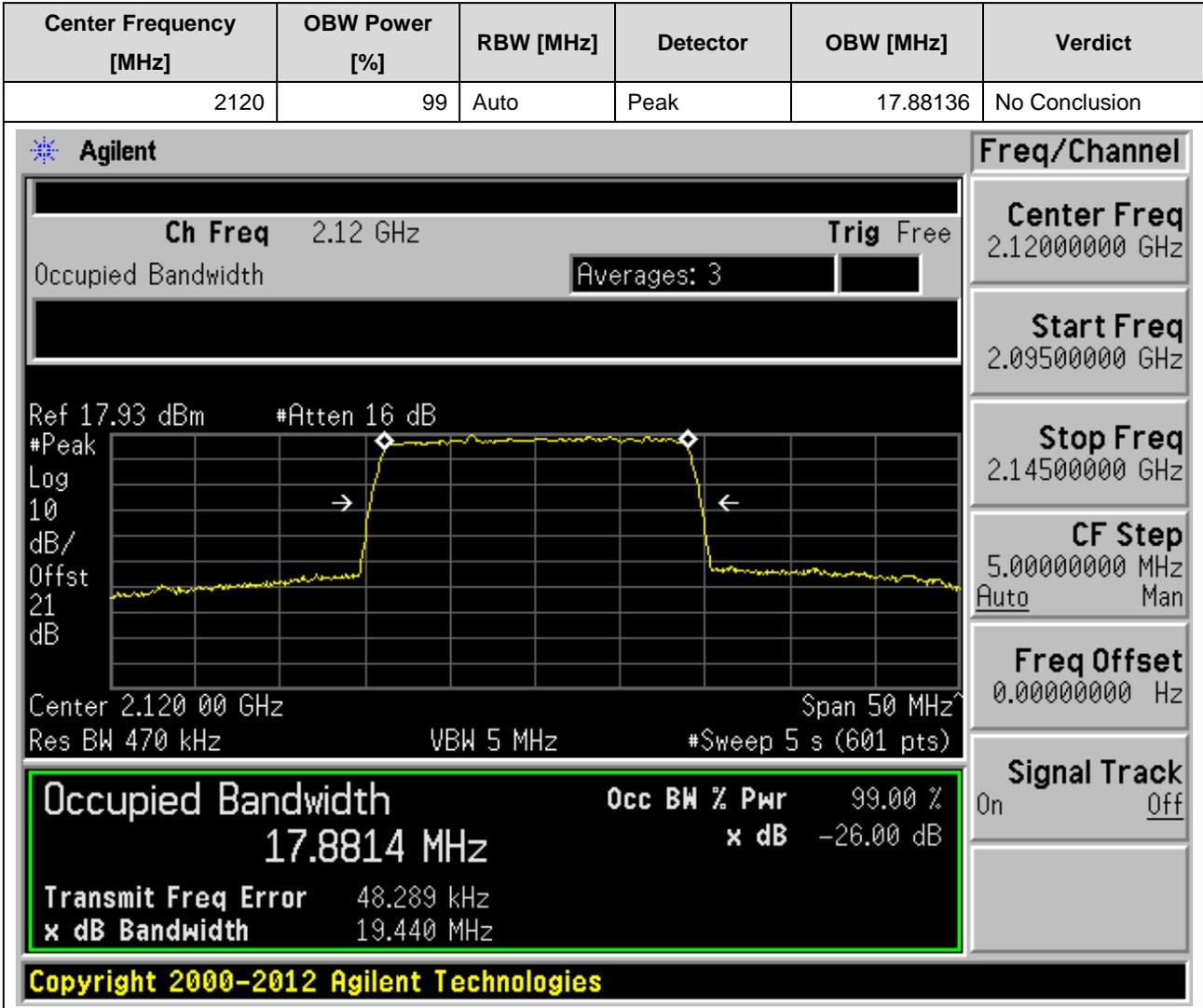


2.1.9 15M\_T

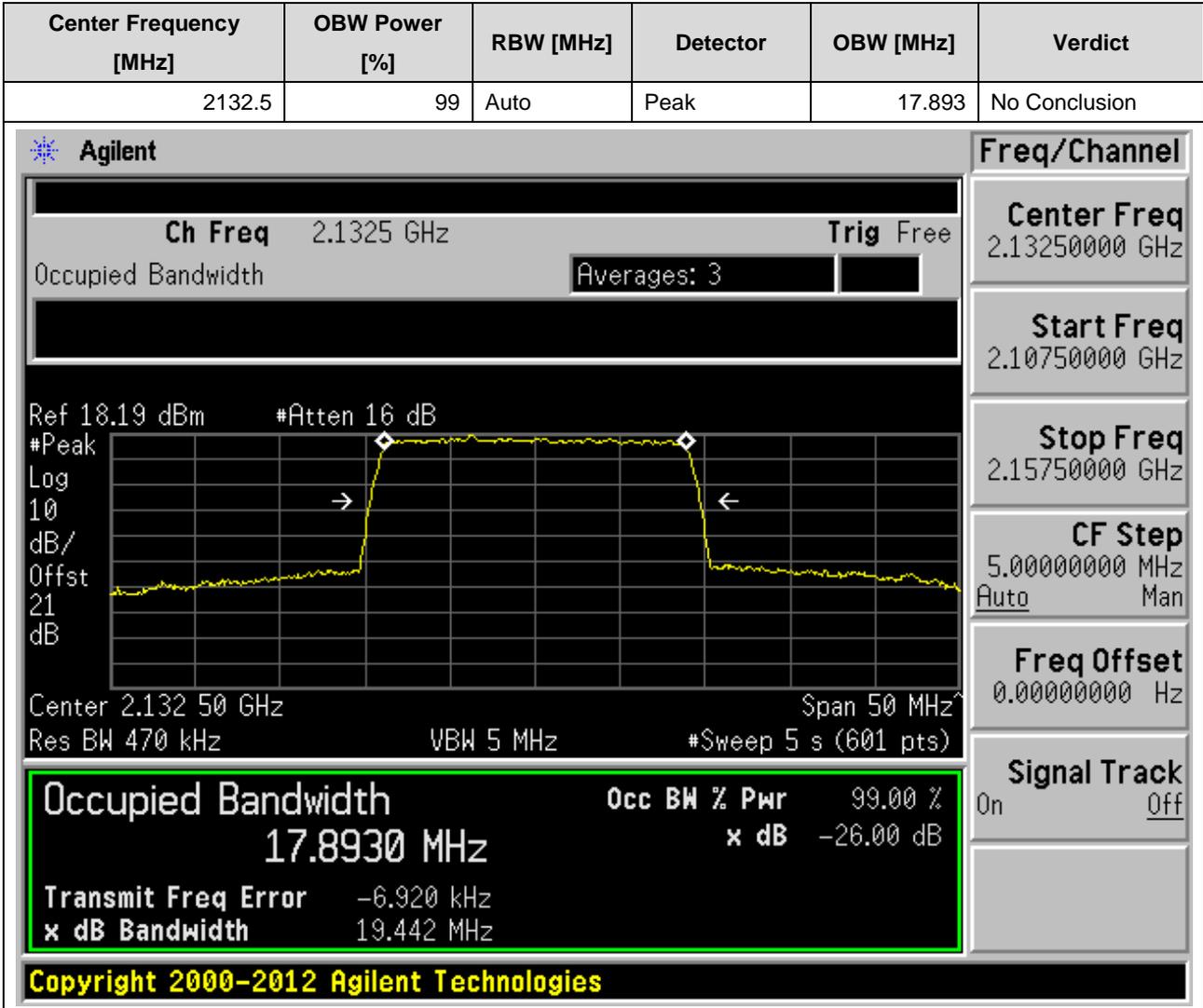




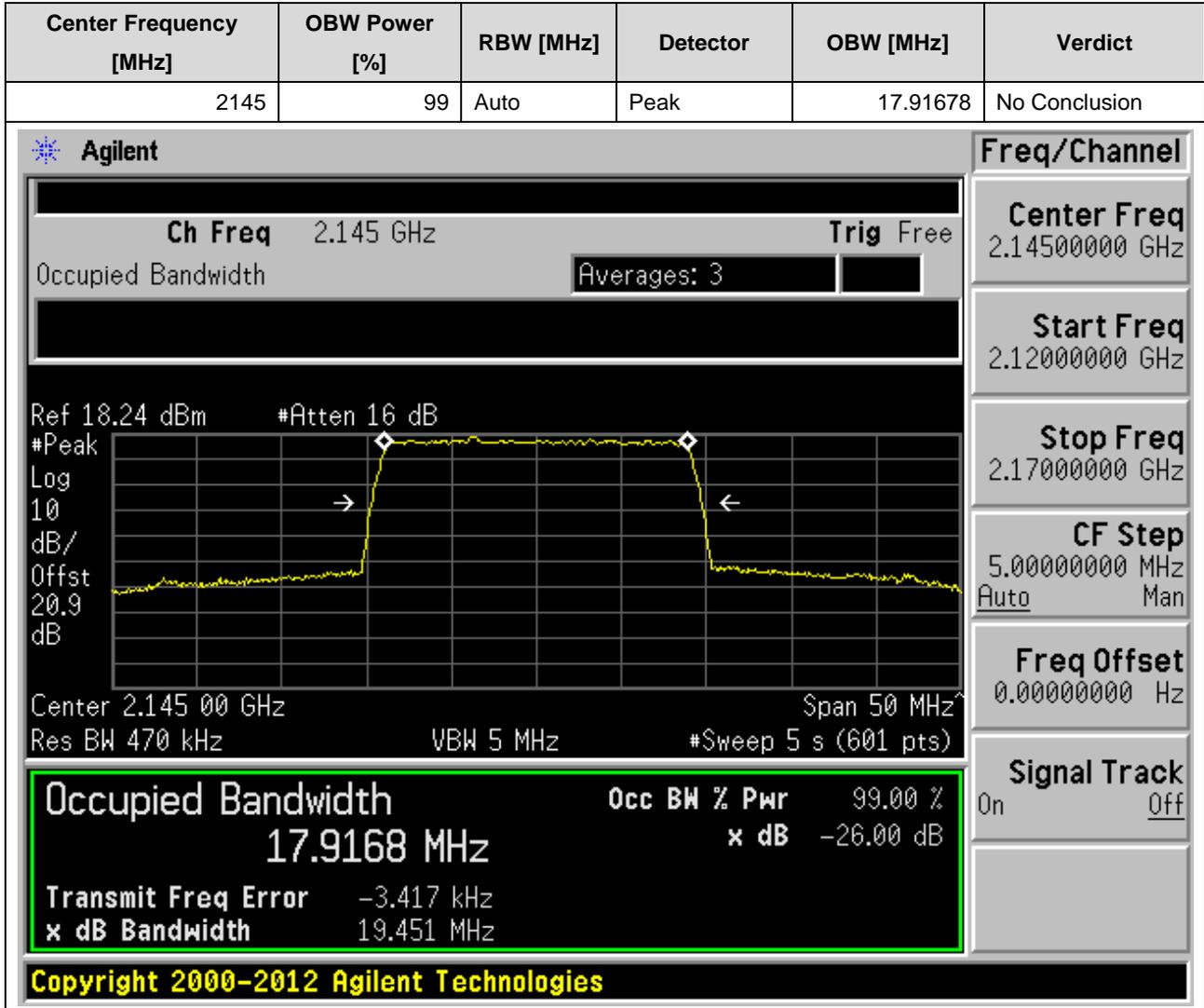
2.1.10 20M\_B



2.1.11 20M\_M

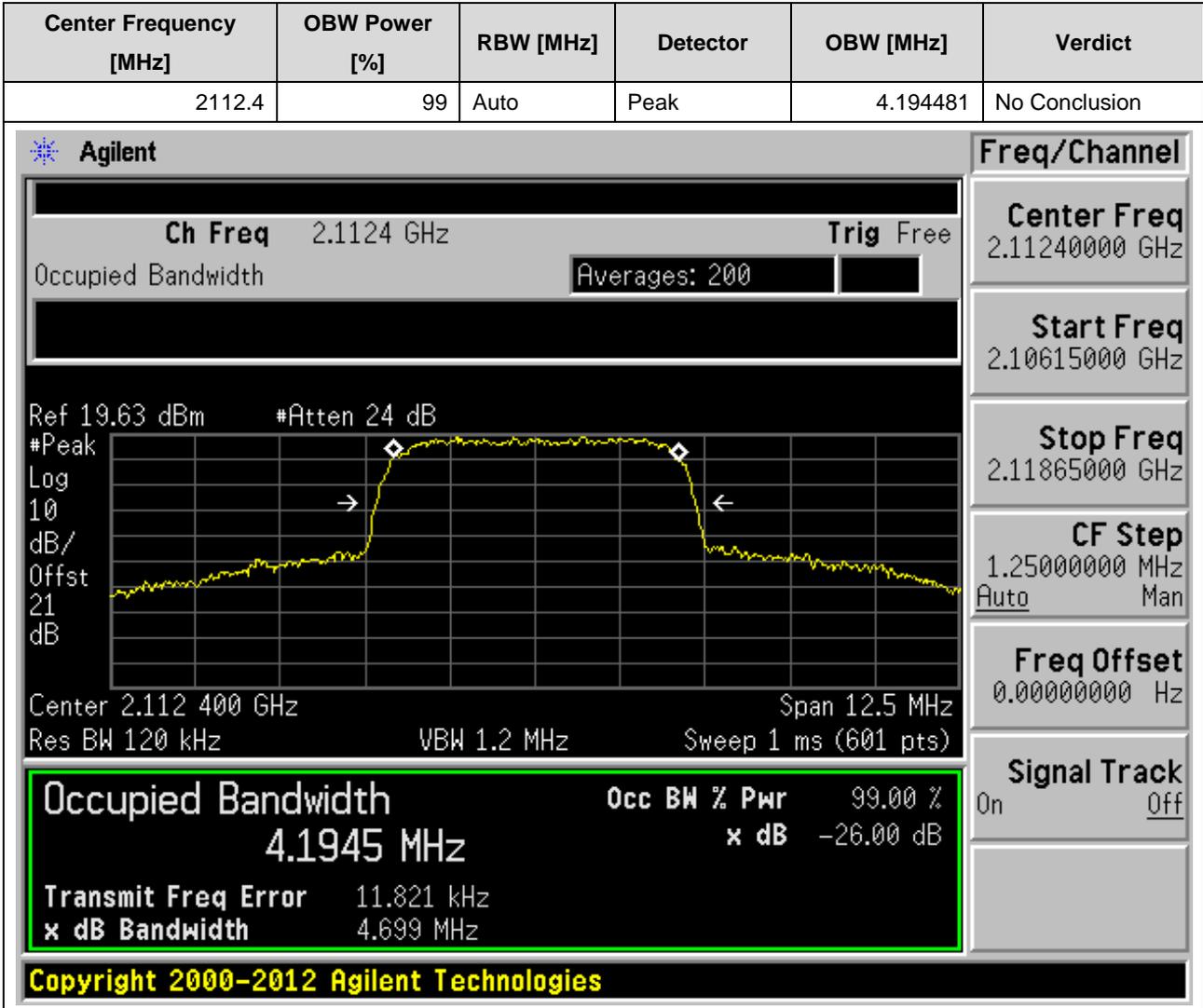


2.1.12 20M\_T



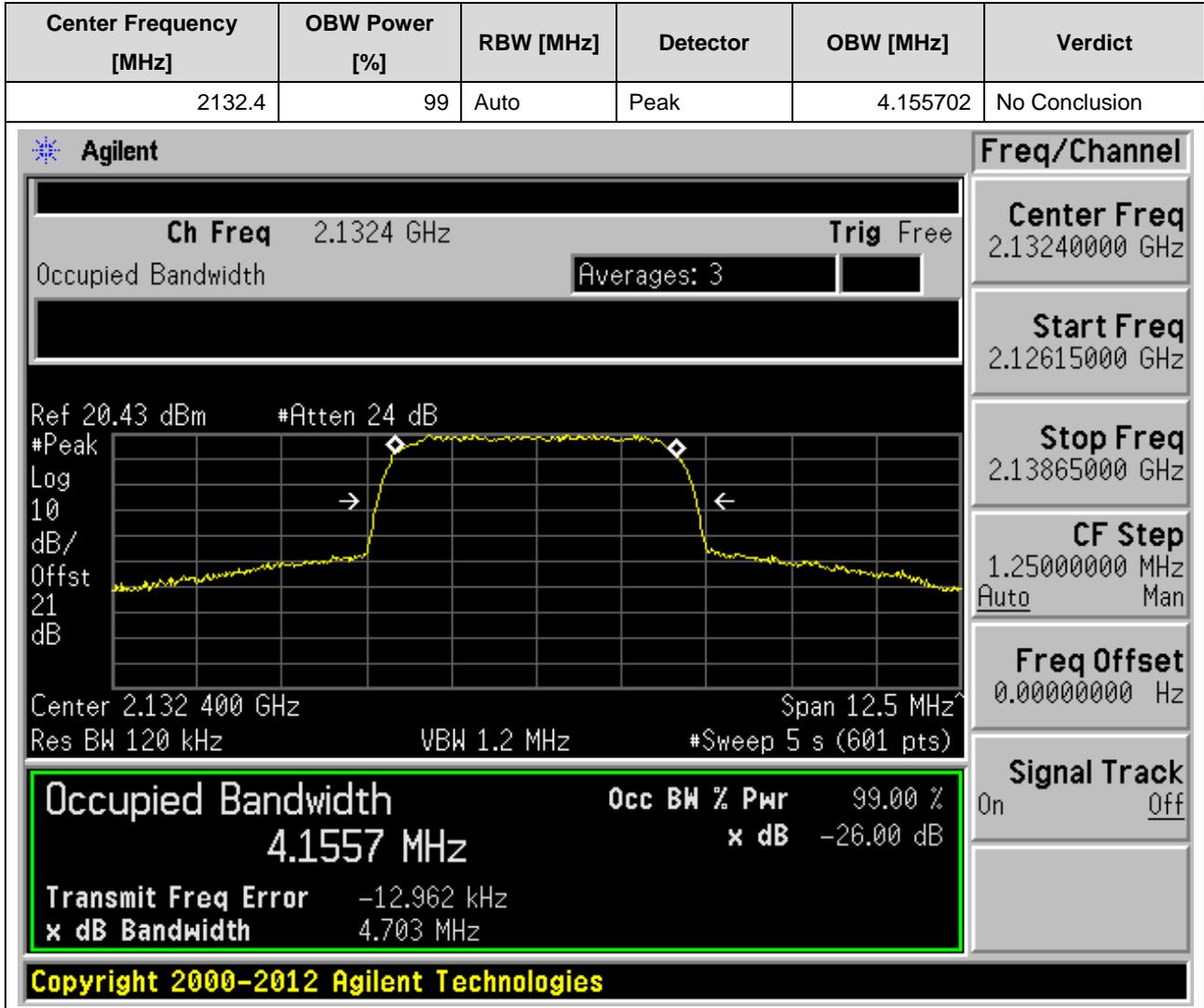


2.1.13 1U\_B

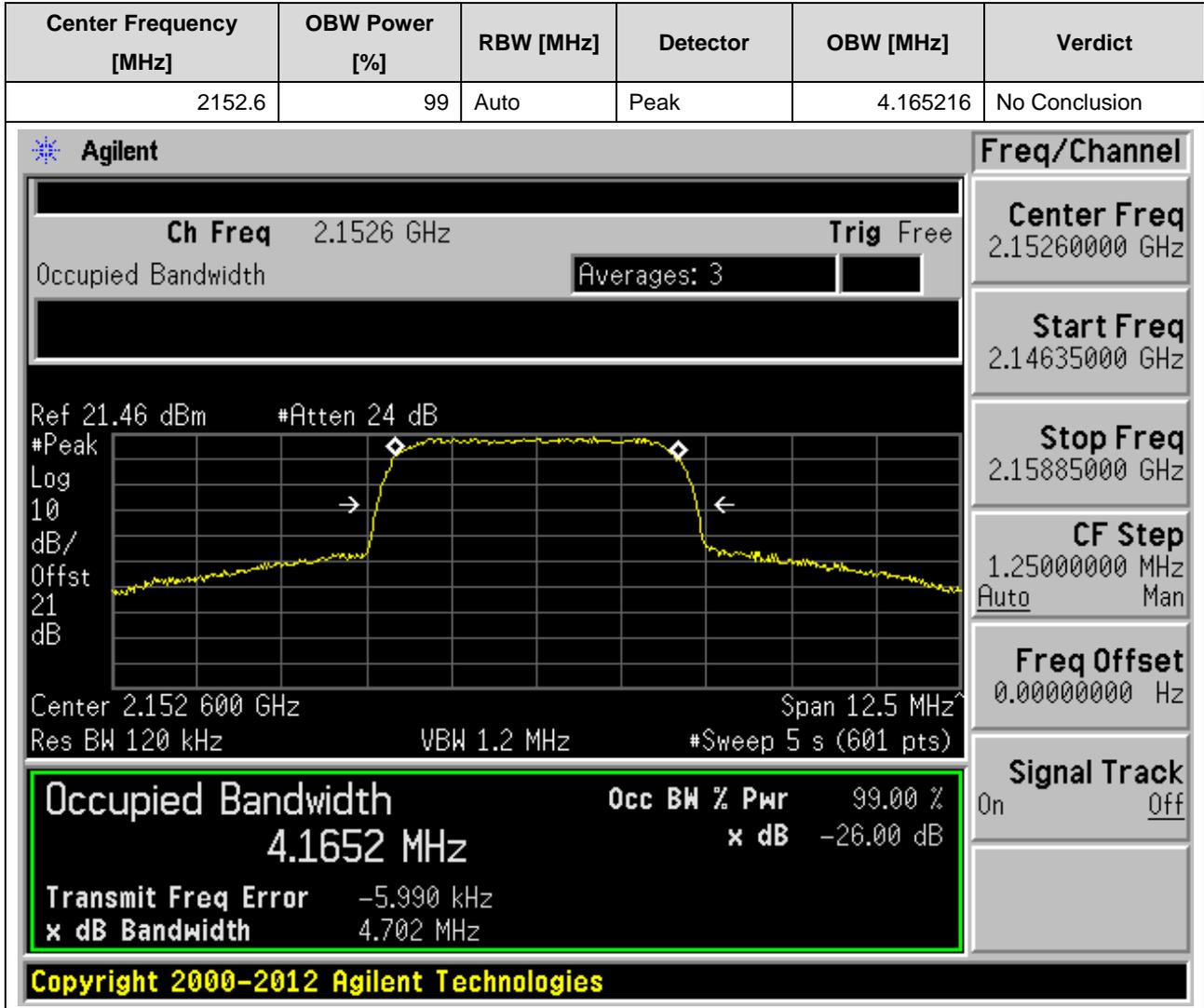




2.1.14 1U\_M



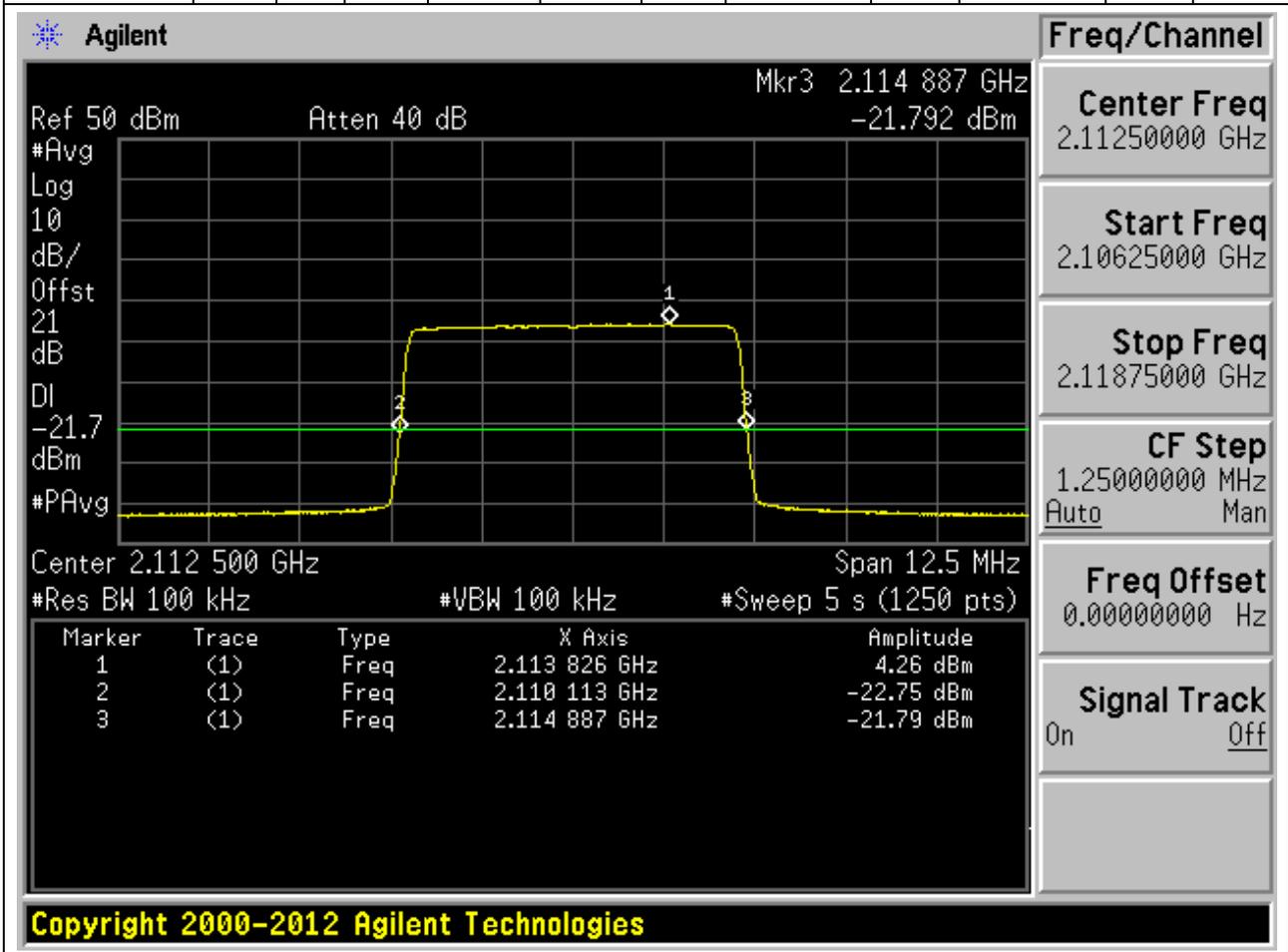
2.1.15 1U\_T



## 2.2 Emission Bandwidth

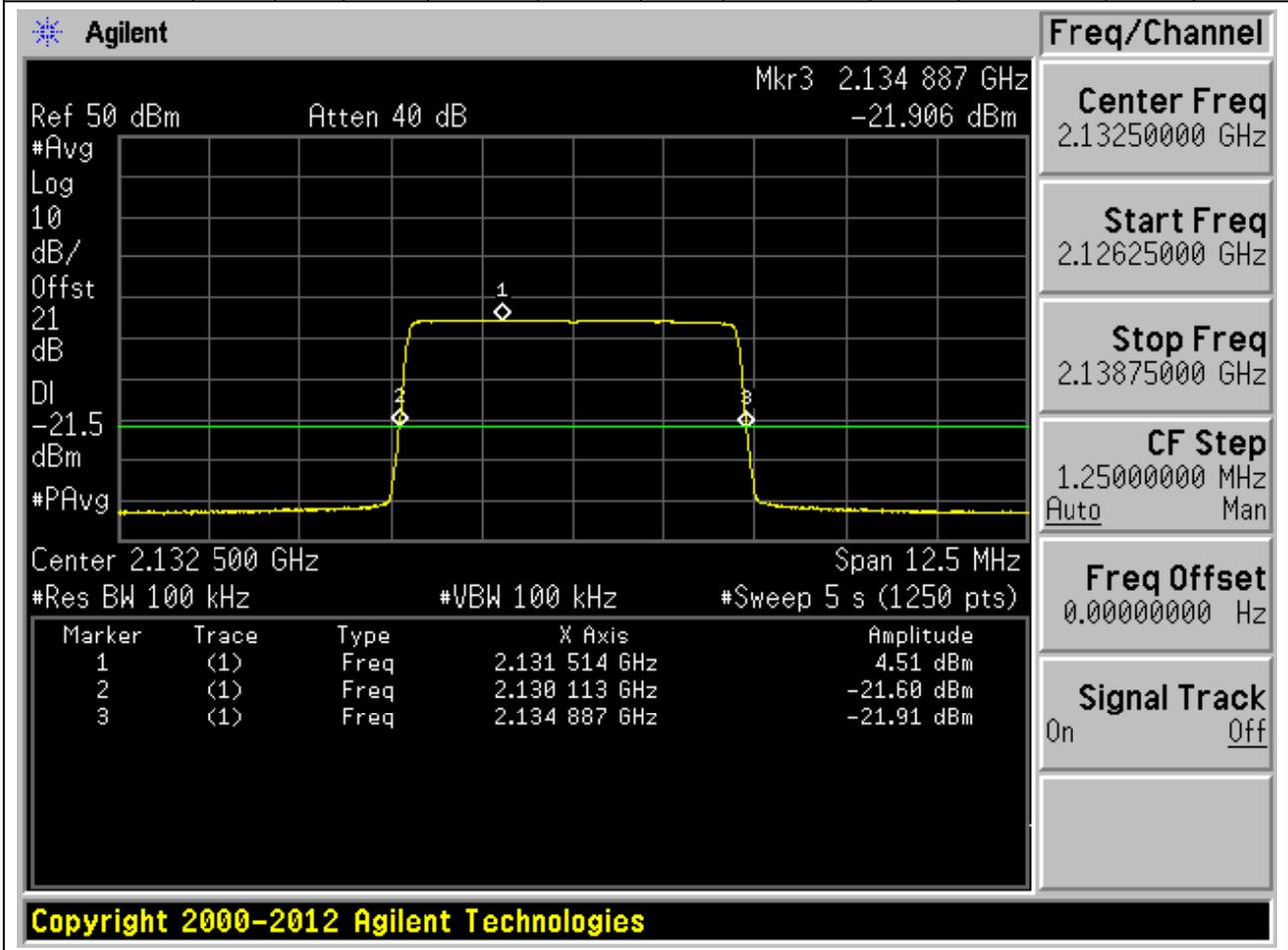
### 2.2.1 5M\_B

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2112.5	12.5	26	0.1	RMS	4.77376	5	2110.113152	2110	2114.886912	2155	Pass



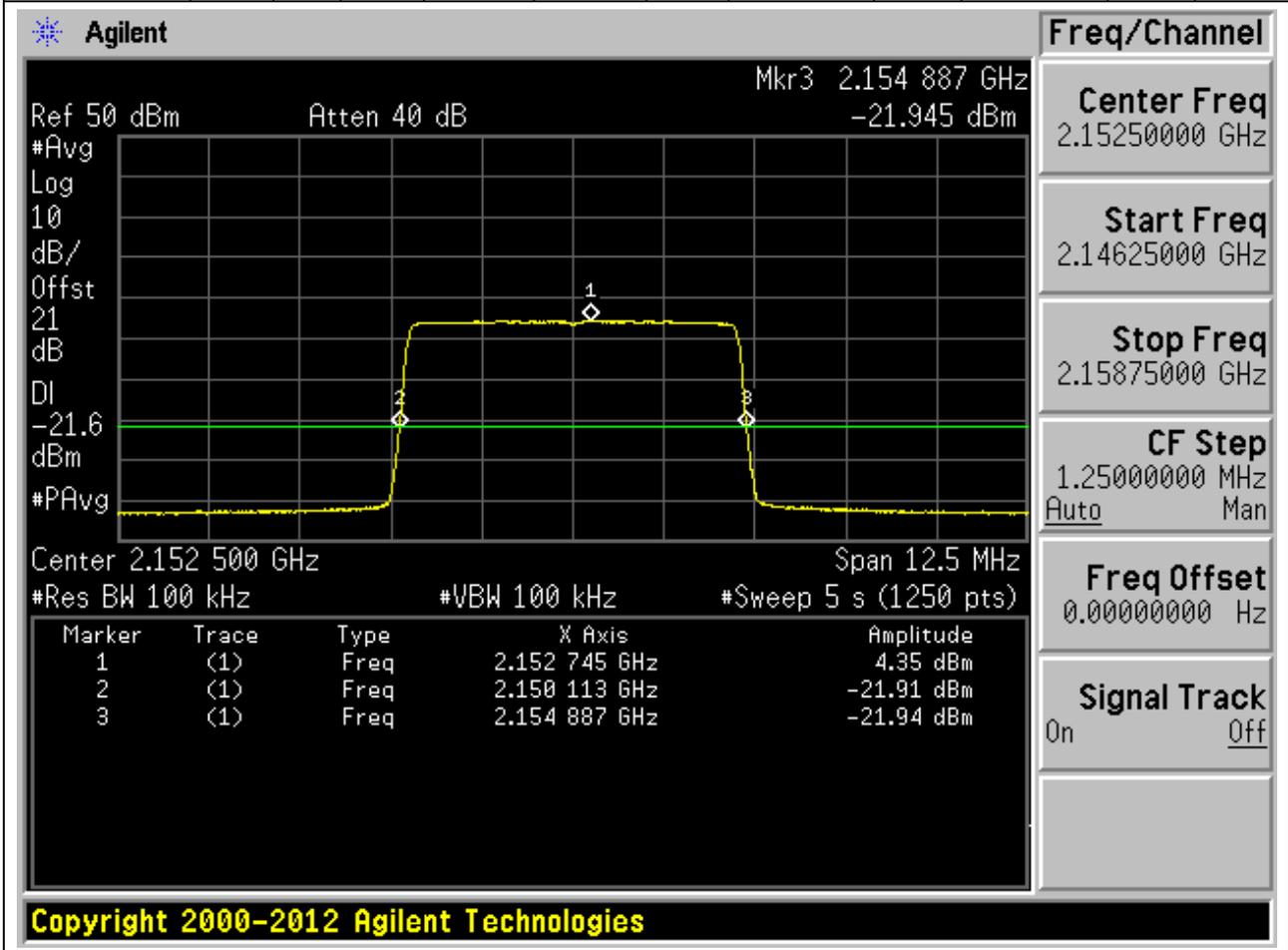
2.2.2 5M\_M

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	12.5	26	0.1	RMS	4.77376	5	2130.113152	2110	2134.886912	2155	Pass



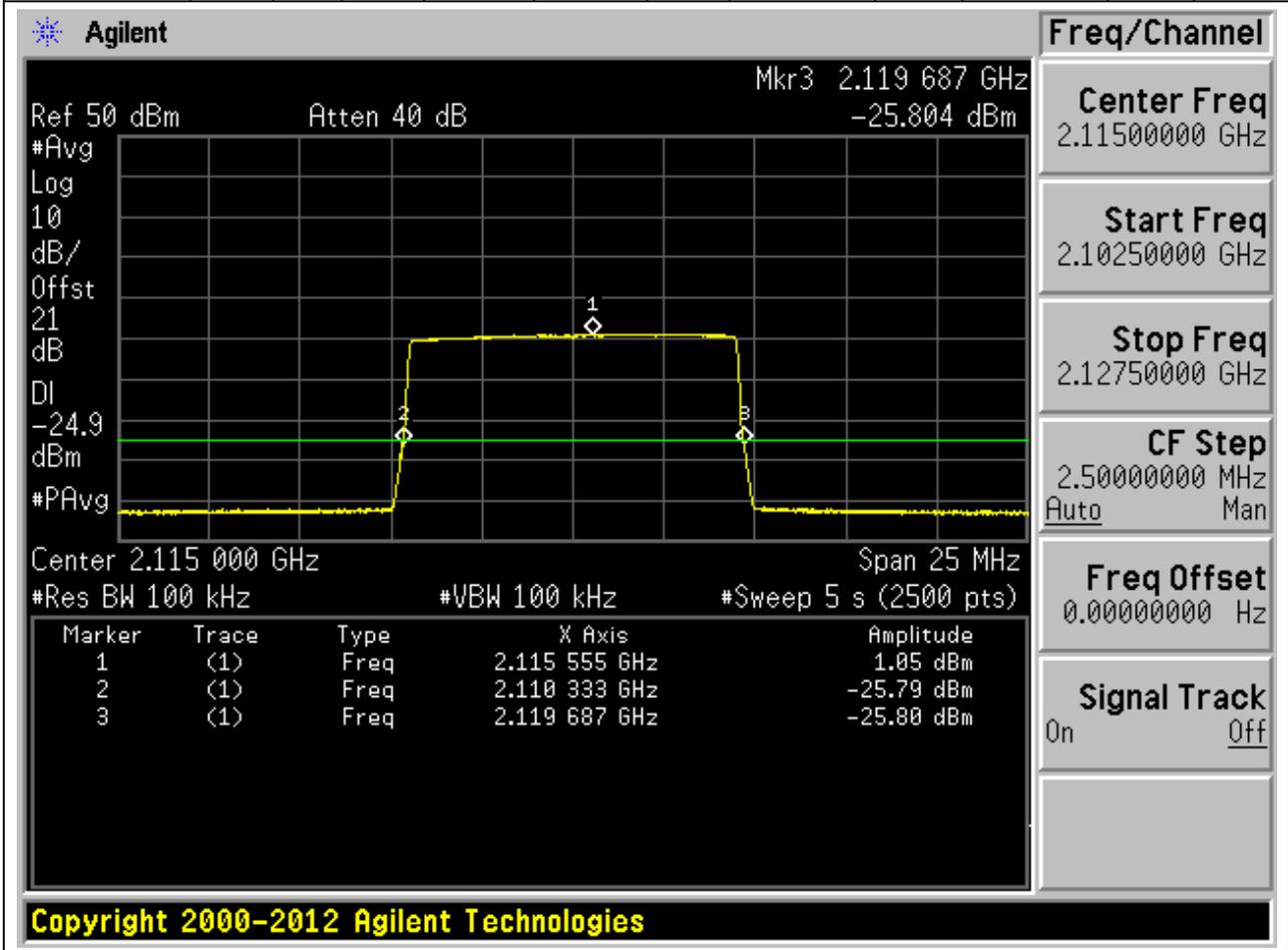
2.2.3 5M\_T

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2152.5	12.5	26	0.1	RMS	4.773888	5	2150.113024	2110	2154.886912	2155	Pass



2.2.4 10M\_B

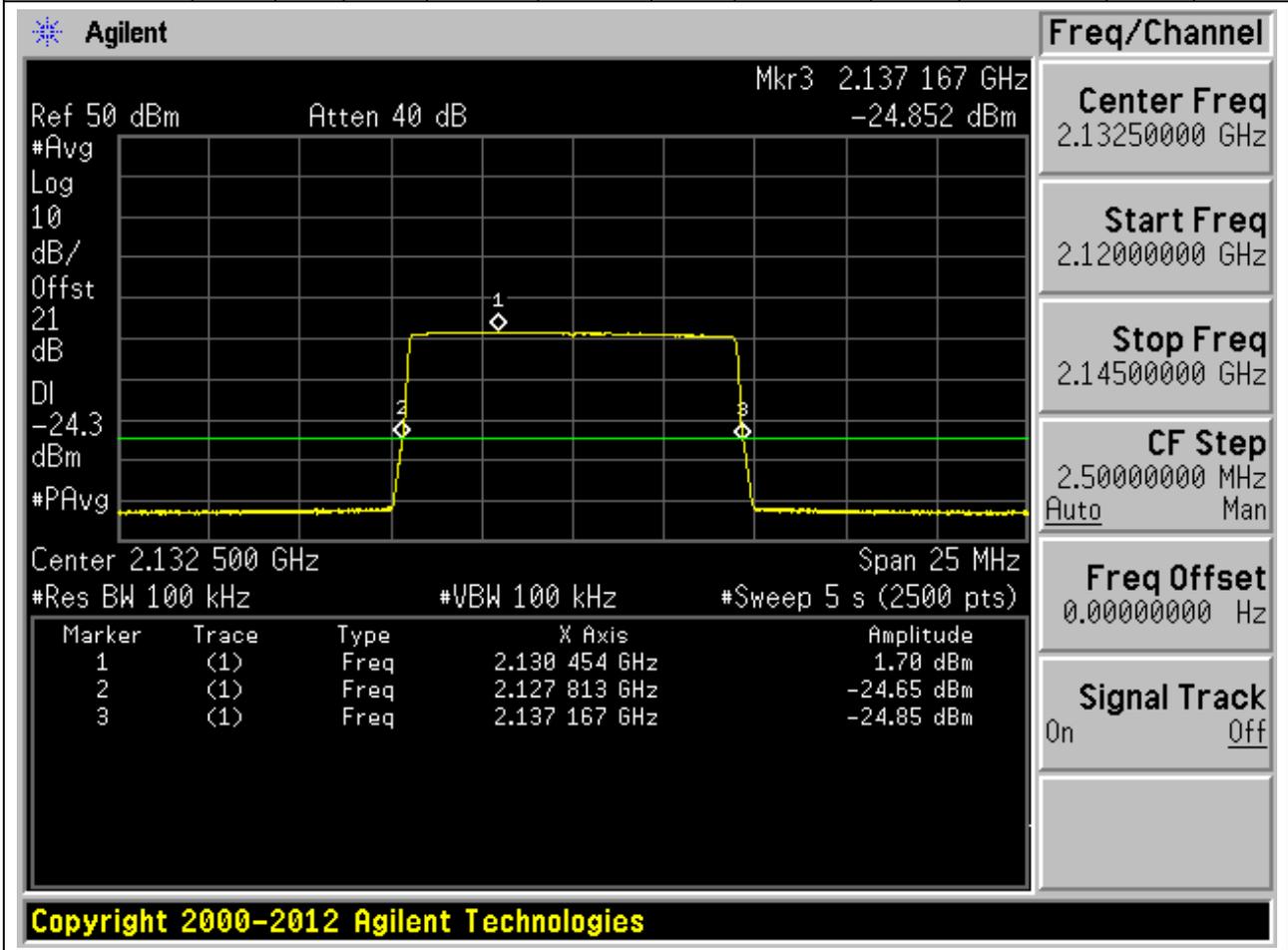
Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2115	25	26	0.1	RMS	9.353728	10	2110.333184	2110	2119.686912	2155	Pass



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2.2.5 10M\_M

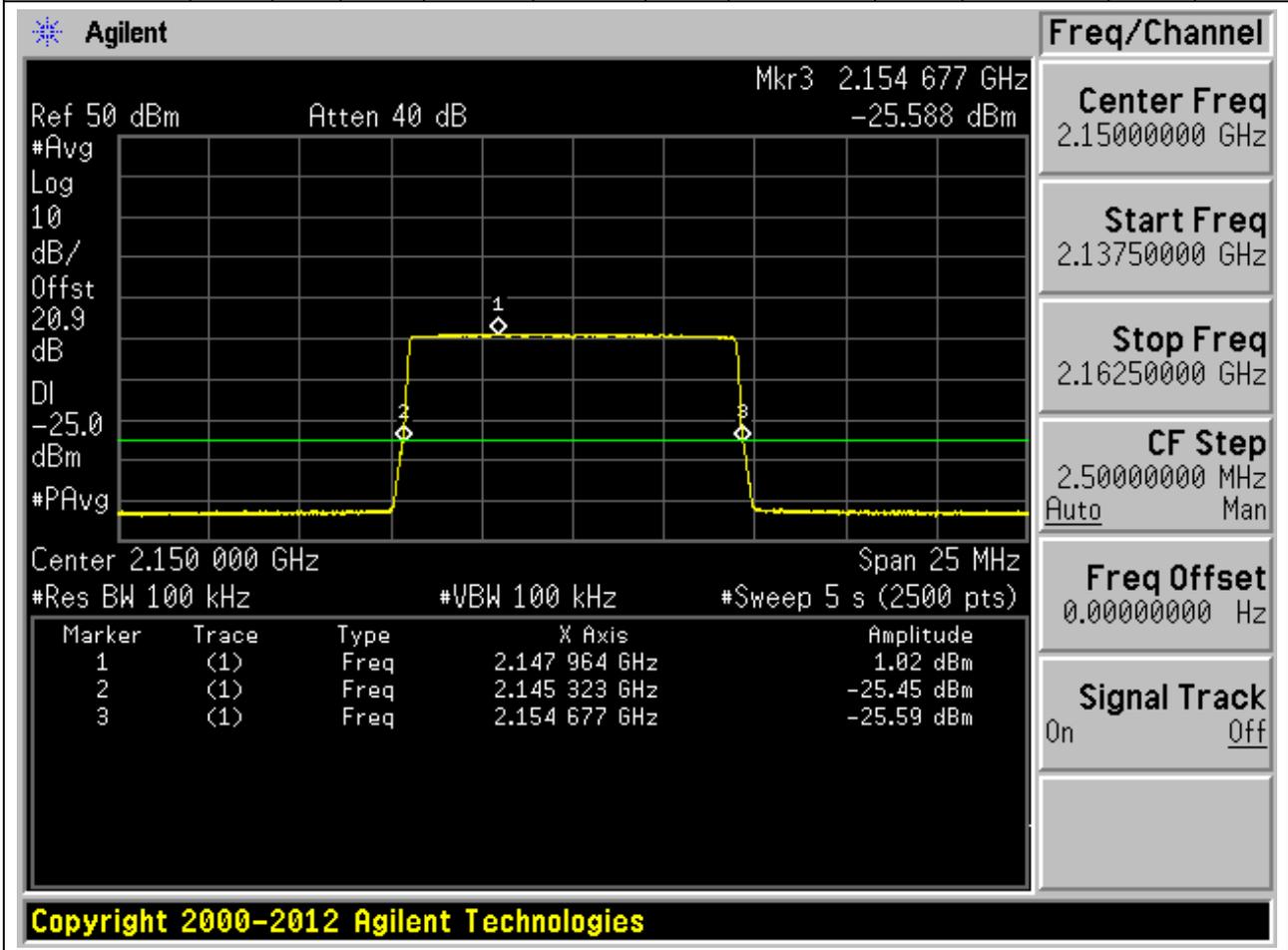
Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	25	26	0.1	RMS	9.353728	10	2127.81312	2110	2137.166848	2155	Pass



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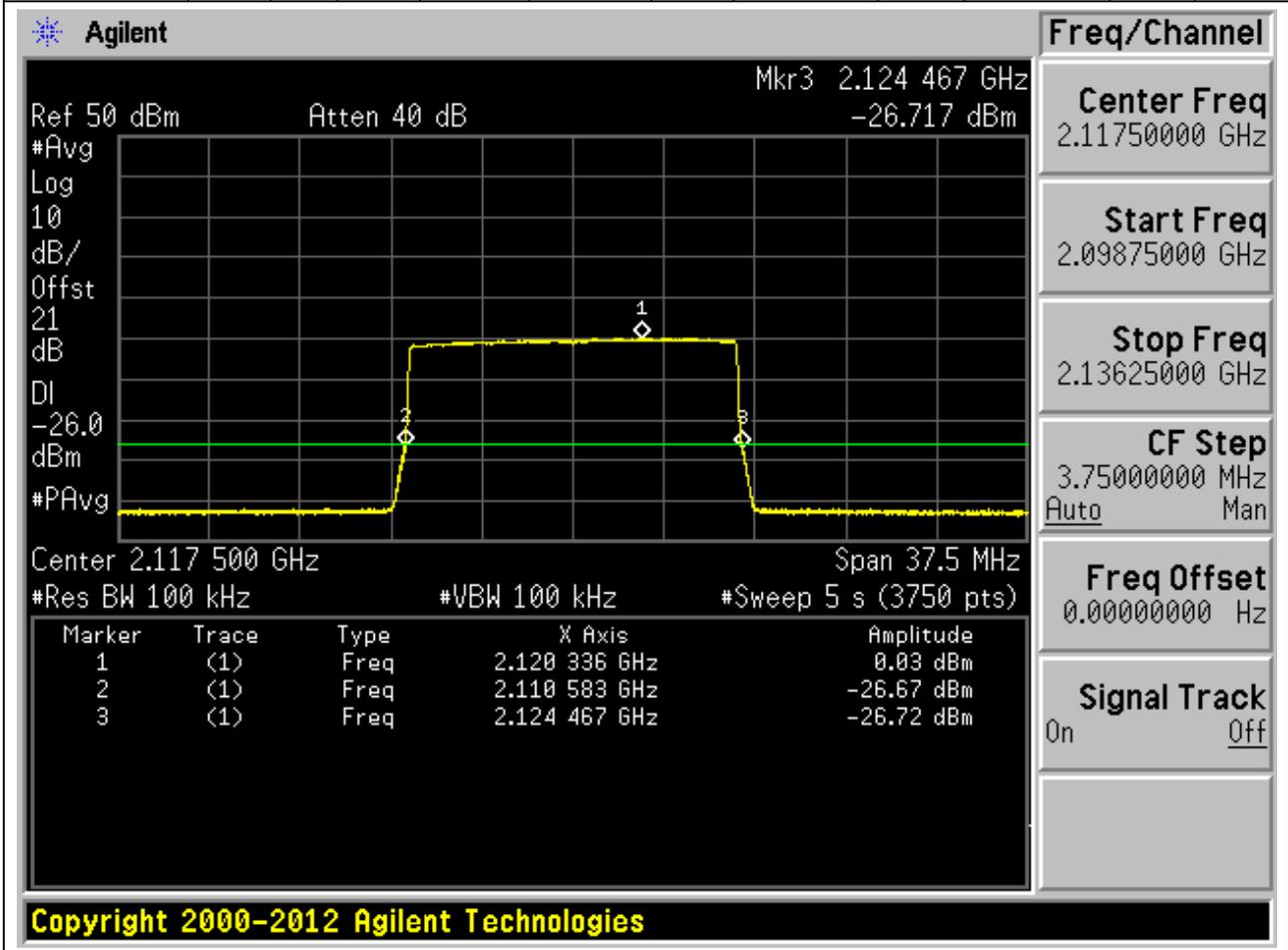
2.2.6 10M\_T

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2150	25	26	0.1	RMS	9.353856	10	2145.323136	2110	2154.676992	2155	Pass



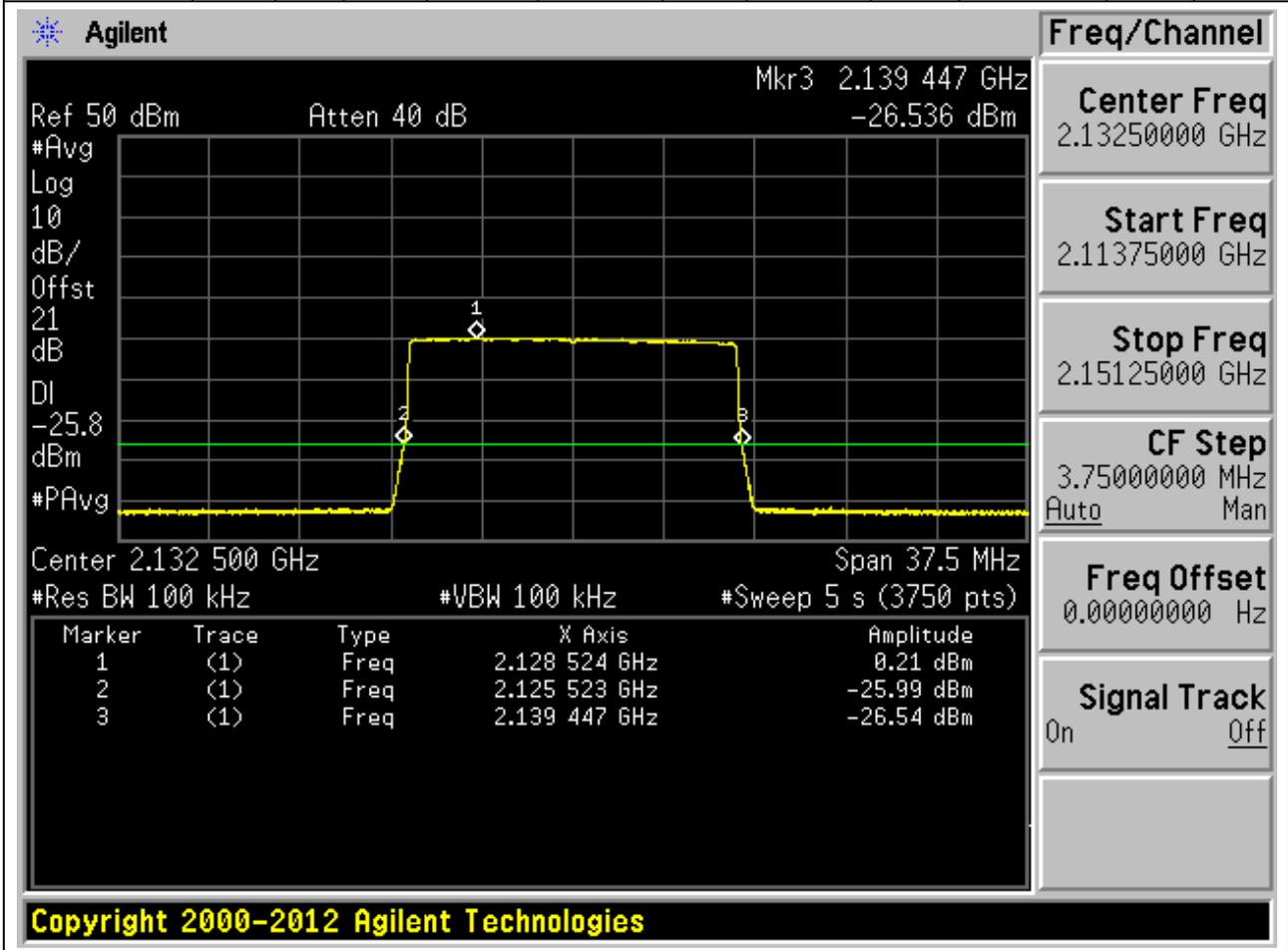
2.2.7 15M\_B

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2117.5	37.5	26	0.1	RMS	13.883648	15	2110.583168	2110	2124.466816	2155	Pass



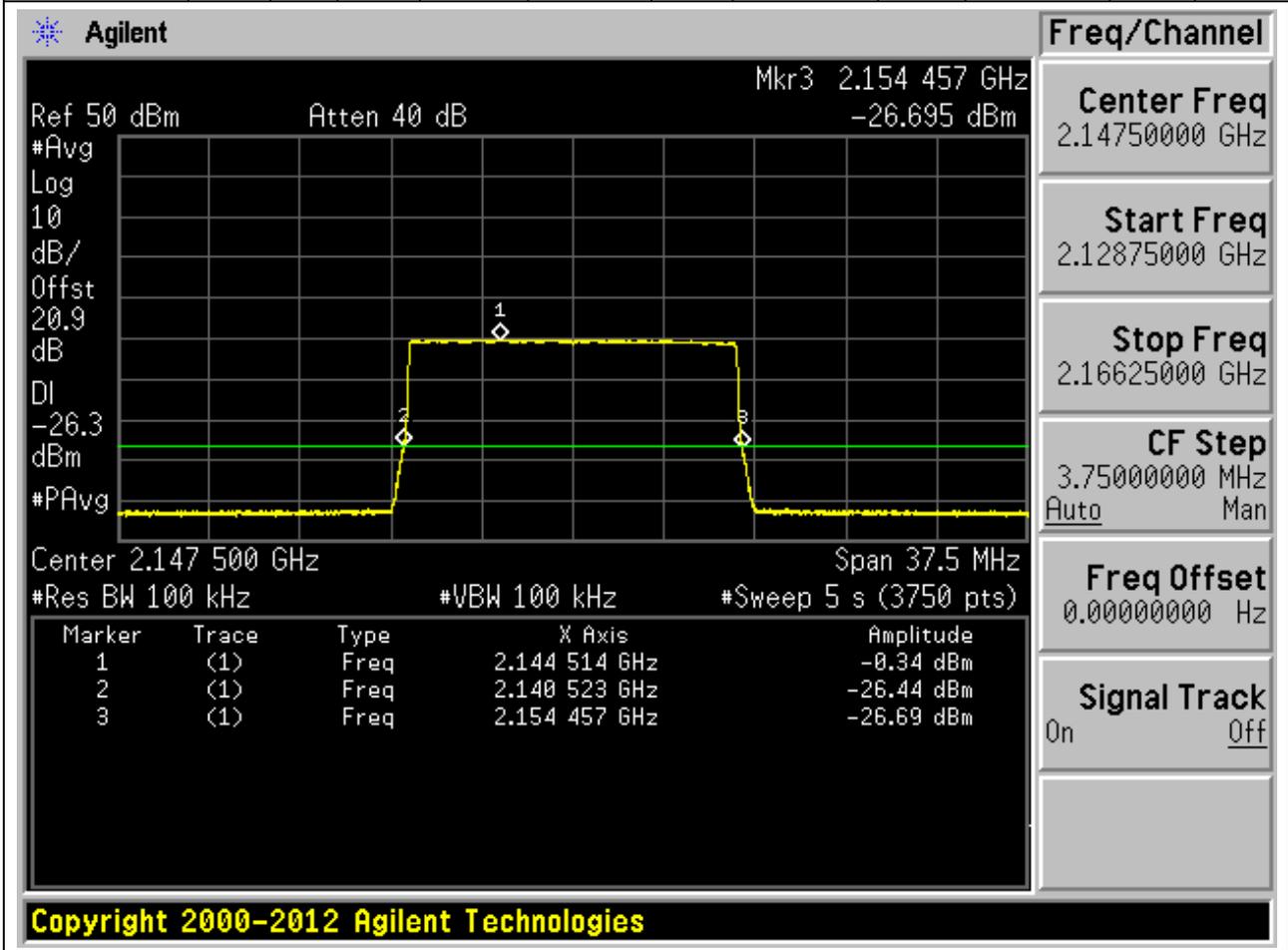
2.2.8 15M\_M

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	37.5	26	0.1	RMS	13.9237 12	15	2125.52 32	2110	2139.4469 12	2155	Pass



2.2.9 15M\_T

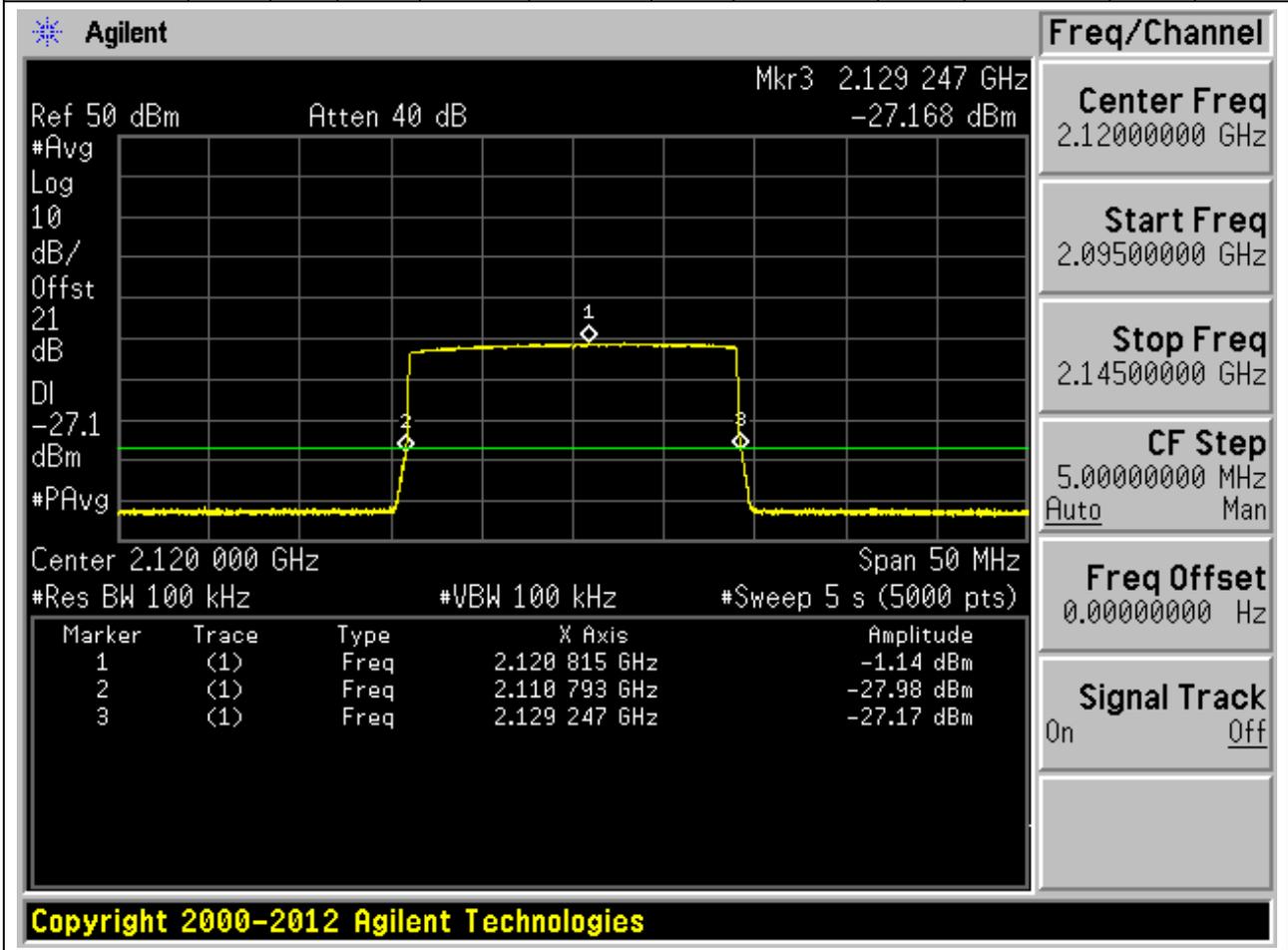
Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2147.5	37.5	26	0.1	RMS	13.933696	15	2140.523136	2110	2154.456832	2155	Pass





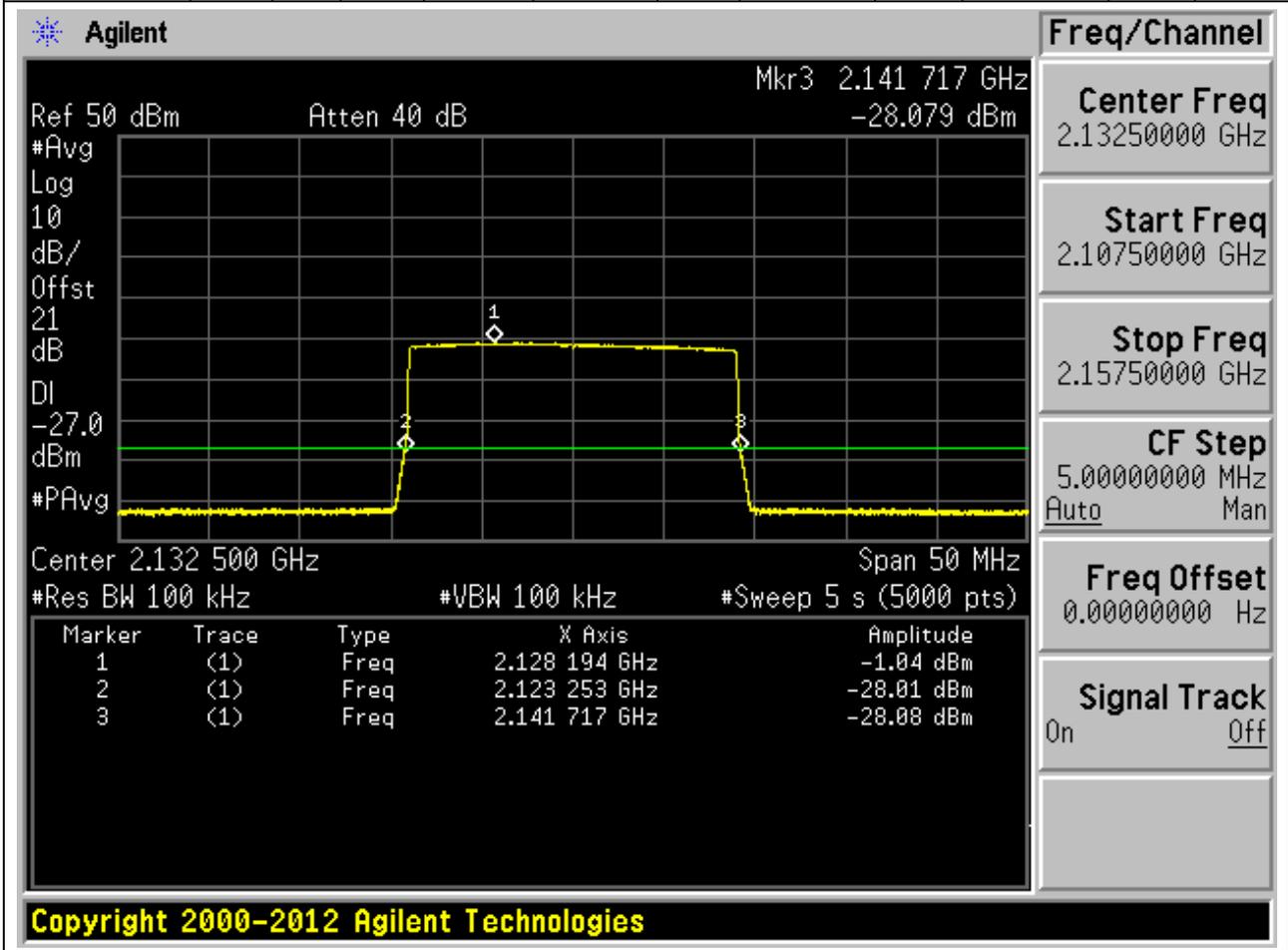
2.2.10 20M\_B

Center Frequency[MHz]	Span [MHz]	nd B [dB]	RB W [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2120	50	26	0.1	RMS	18.453632	20	2110.793216	2110	2129.246848	2155	Pass



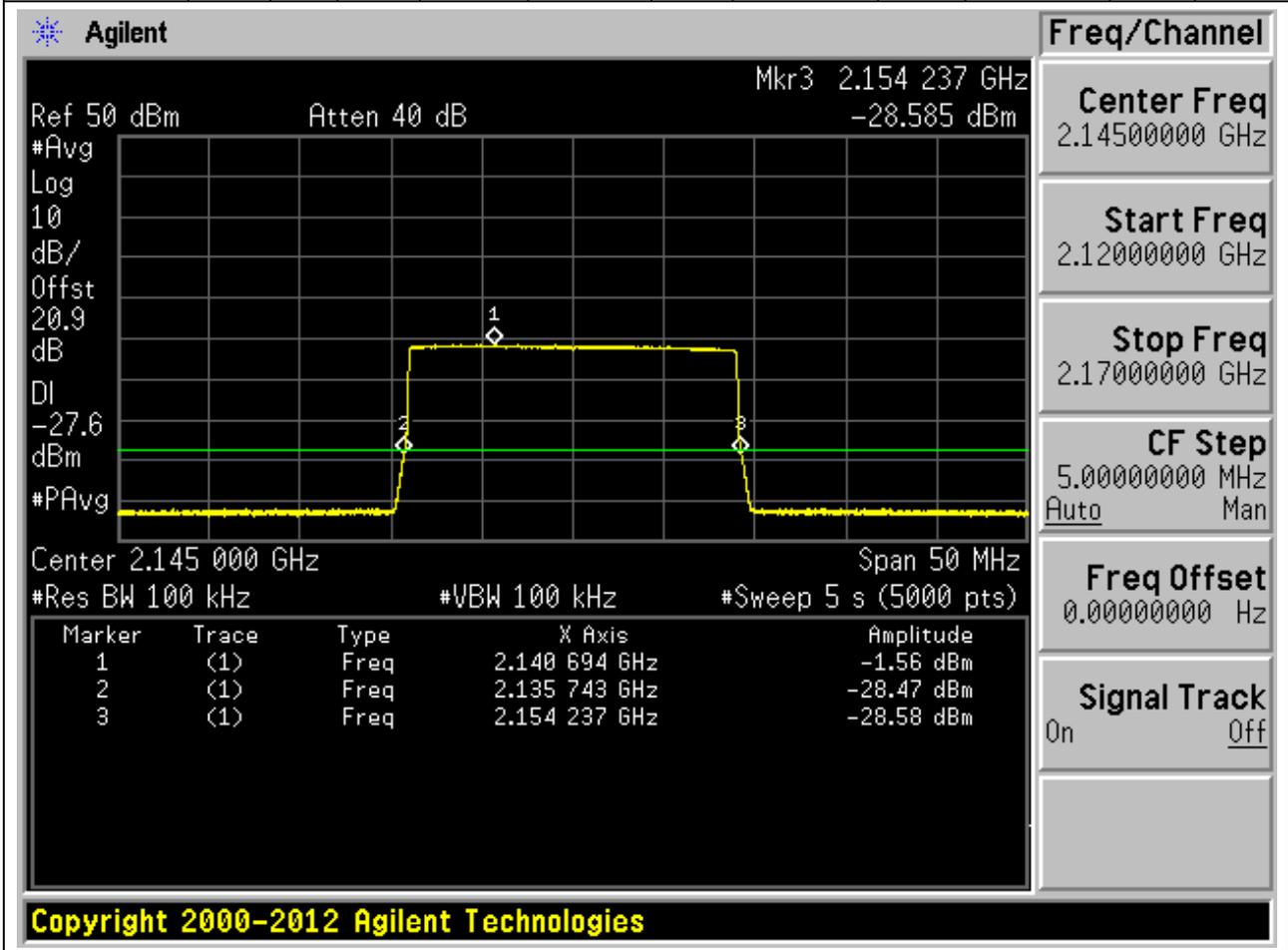
2.2.11 20M\_M

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.5	50	26	0.1	RMS	18.463744	20	2123.25312	2110	2141.716864	2155	Pass



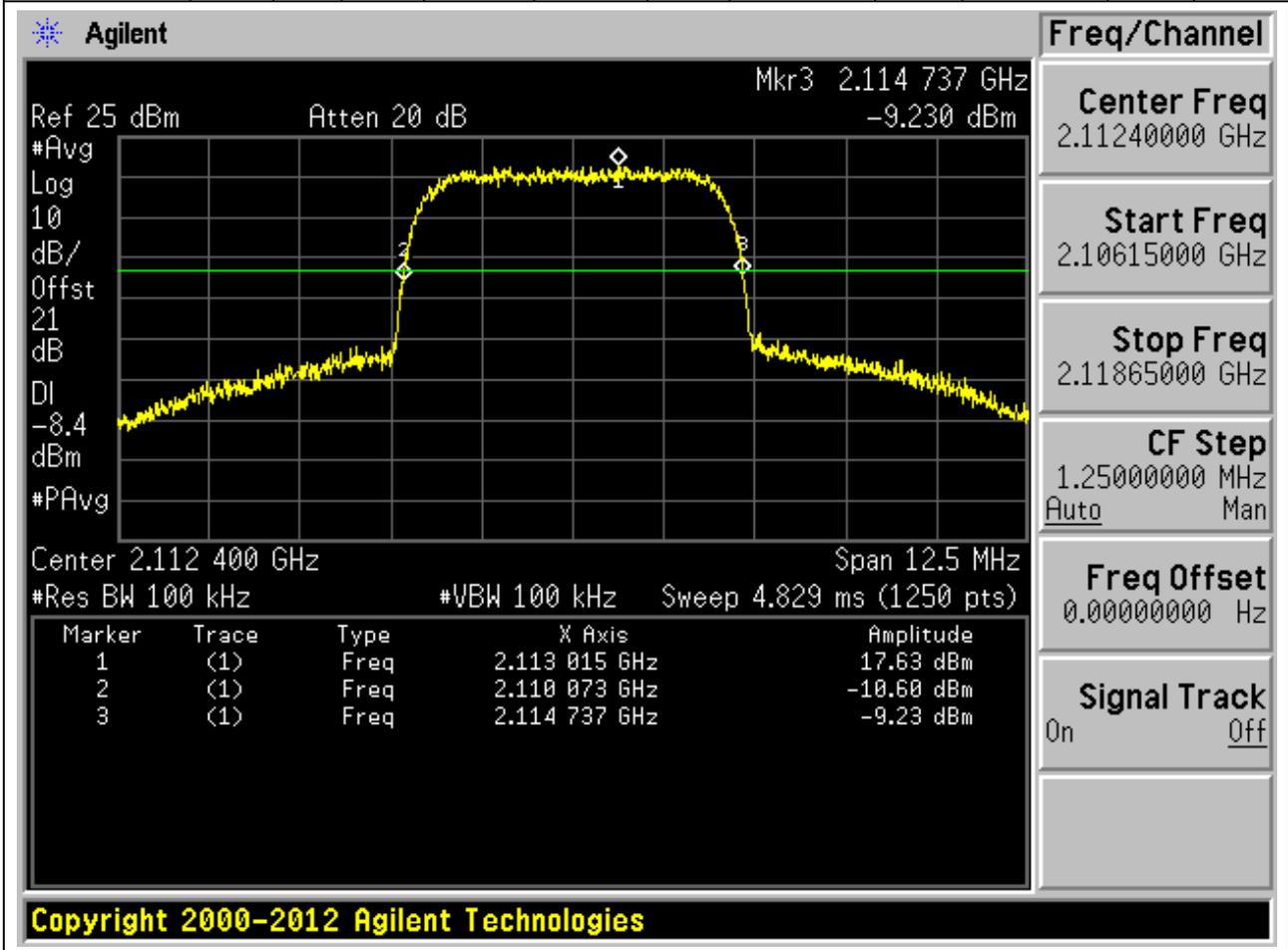
2.2.12 20M\_T

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2145	50	26	0.1	RMS	18.493824	20	2135.743104	2110	2154.236928	2155	Pass



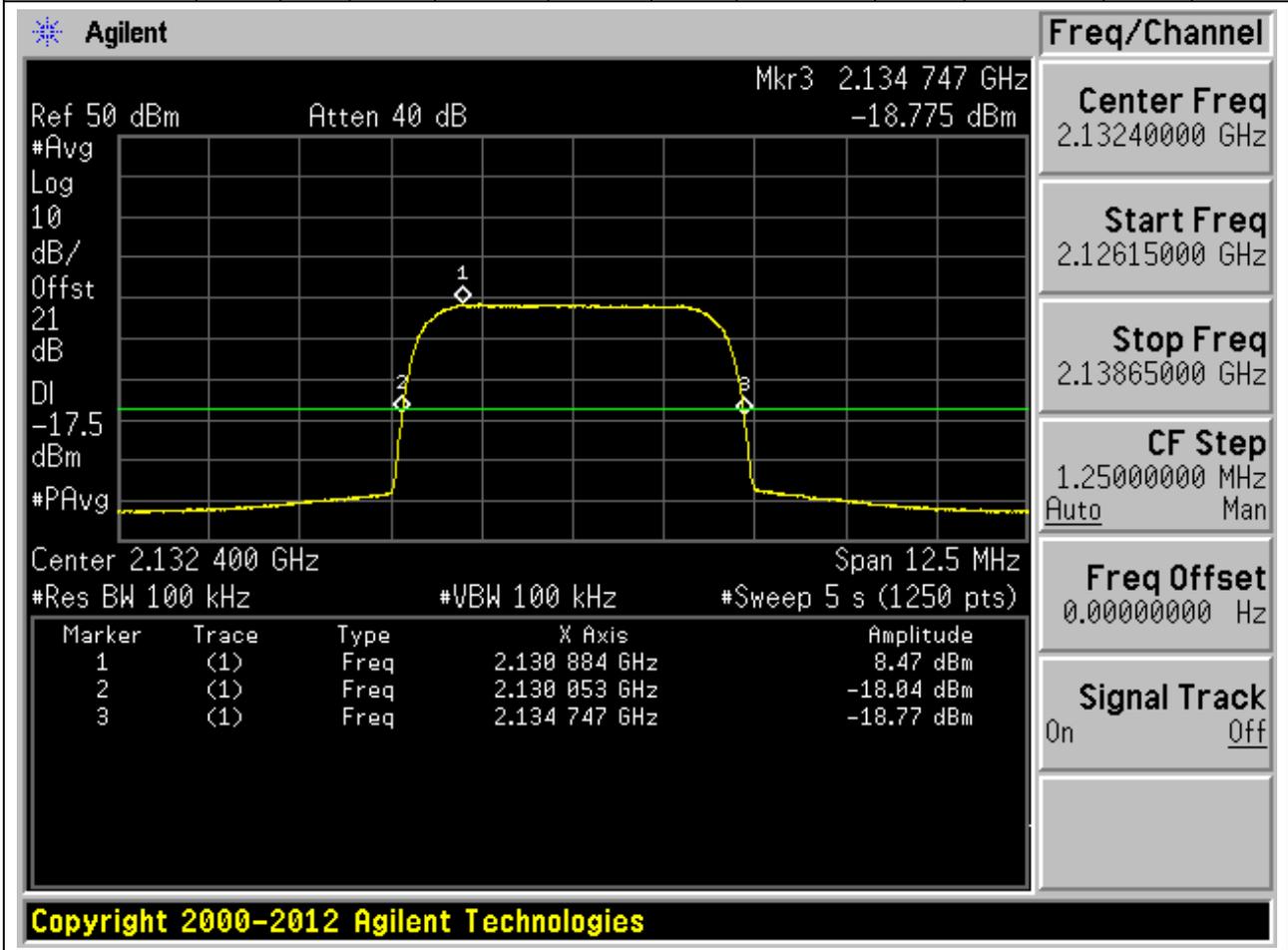
2.2.13 1U\_B

Center Frequency[MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2112.4	12.5	26	0.1	RMS	4.663808	5	2110.073088	2110	2114.736896	2155	Pass



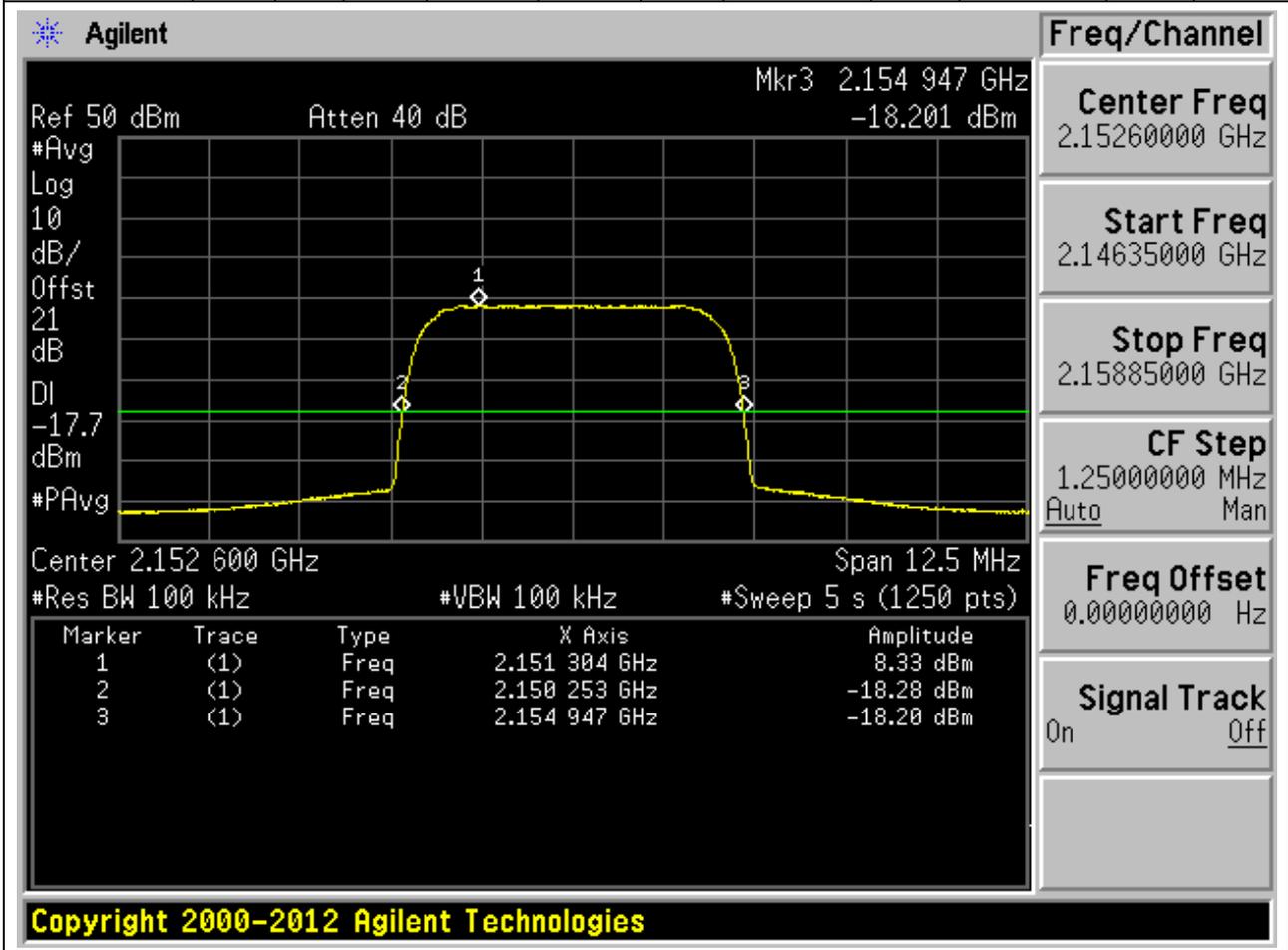
2.2.14 1U\_M

Center Frequency[MHz]	Span [MHz]	nd B [dB]	RBW [MHz]	Detect or	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2132.4	12.5	26	0.1	RMS	4.69376	5	2130.05312	2110	2134.74688	2155	Pass



2.2.15 1U\_T

Center Frequency [MHz]	Span [MHz]	ndB [dB]	RBW [MHz]	Detector	ndB BW [MHz]	BW Limit [MHz]	Lower Freq [MHz]	Lower Limit [MHz]	Upper Freq [MHz]	Upper Limit [MHz]	Verdict
2152.6	12.5	26	0.1	RMS	4.69376	5	2150.253056	2110	2154.946816	2155	Pass





# Appendix C1: Band Edges Compliance



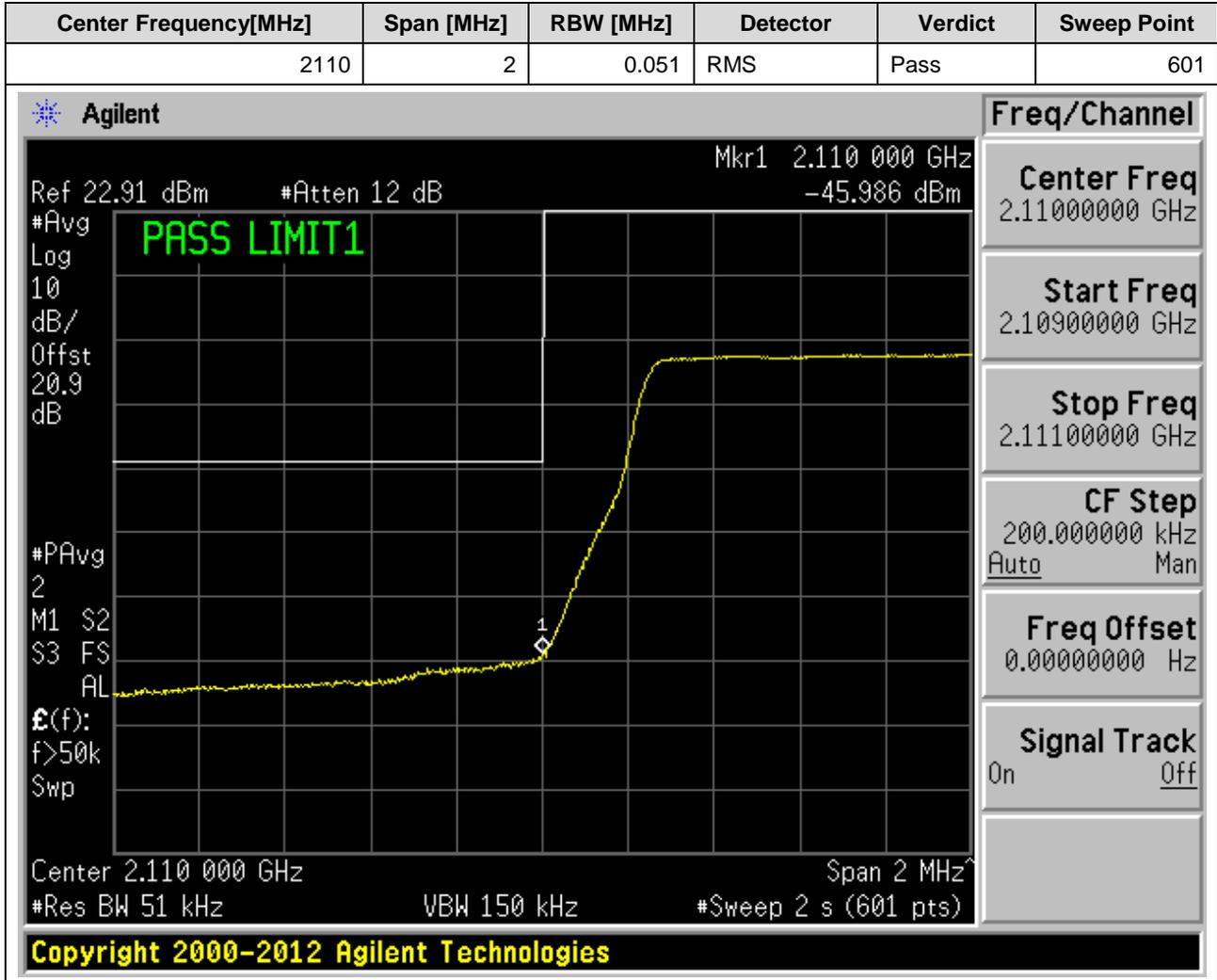
## 1 Result Table

NOTE: The offset of measurement filter -3dB point may be considered when identifying the maximum emission for e.g. the CDMA, WCDMA, WiMAX, LTE systems.

EUT Conf.	Maximum Emission [dBm]	Verdict
5M_B	<-13	Pass
5M_T	<-13	Pass
20M_B	<-13	Pass
20M_T	<-13	Pass
1U_B	<-13	Pass
1U_T	<-13	Pass
2U_B	<-13	Pass
2U_T	<-13	Pass

## 2 Test Plot

### 2.1 5M\_B



2.2 5M\_T



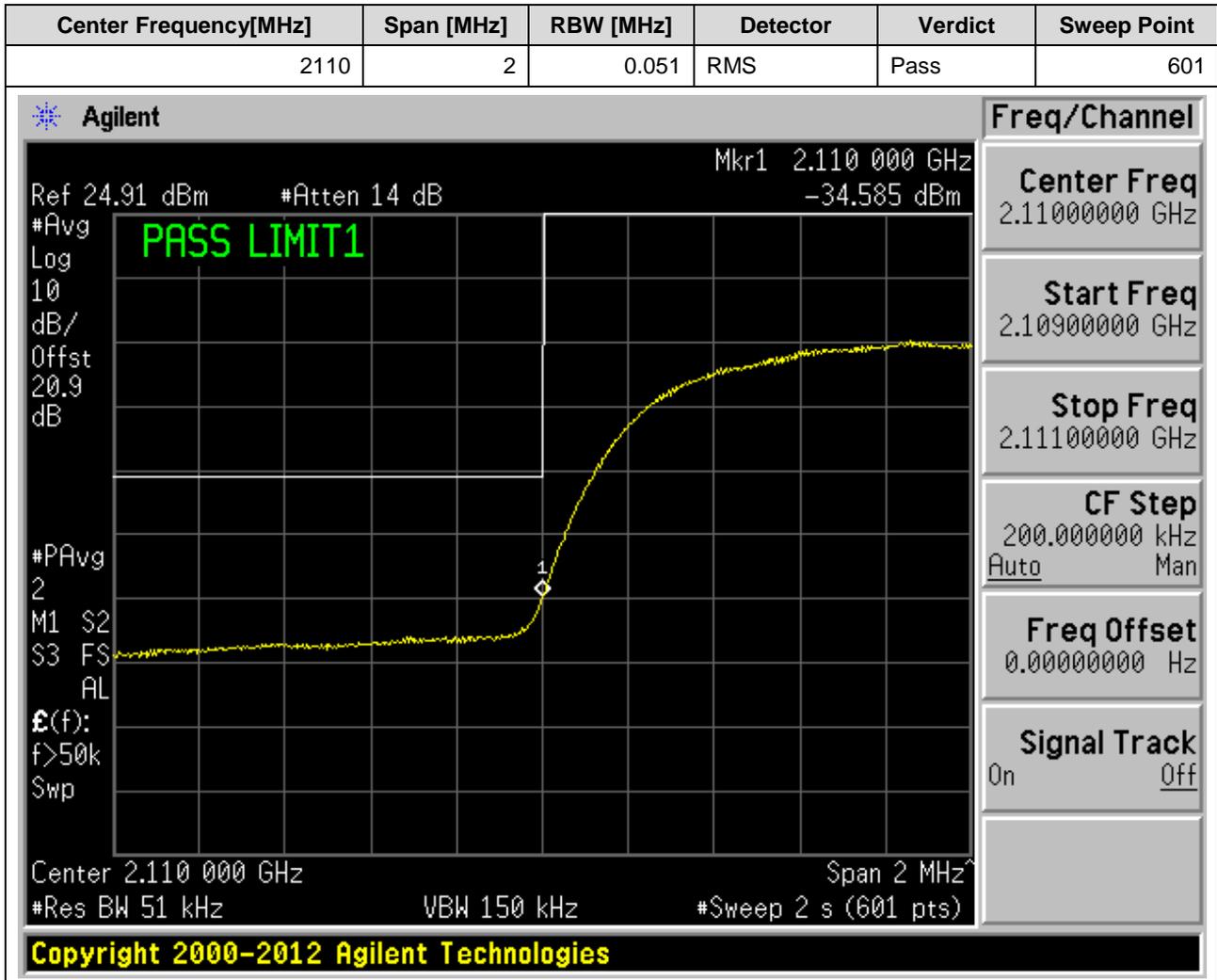
2.3 20M\_B



2.4 20M\_T



2.5 1U\_B



2.6 1U\_T



2.7 2U\_B



2.8 2U\_T





# Appendix D1: Spurious Emission at Antenna Terminals

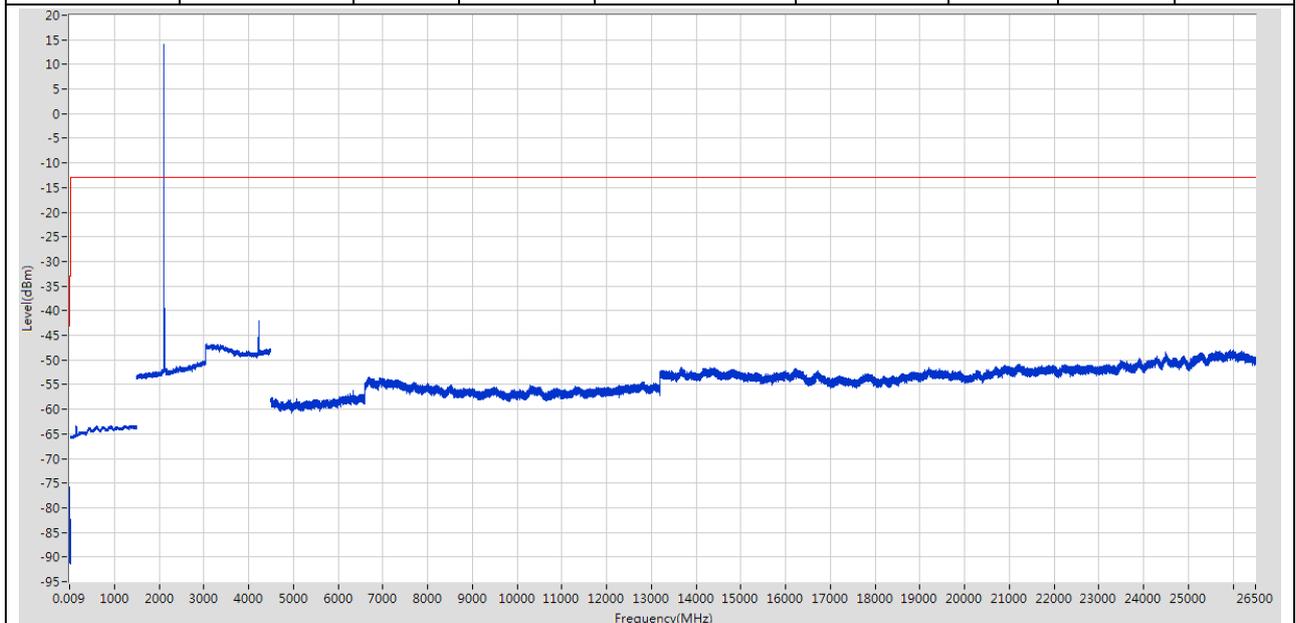
## 1 Result Table

EUT Conf.	Maximum Emission [dBm]	Verdict
5M_B	<-13	Pass
5M_M	<-13	Pass
5M_T	<-13	Pass
1U_B	<-13	Pass
1U_M	<-13	Pass
1U_T	<-13	Pass
2U_B	<-13	Pass
2U_M	<-13	Pass
2U_T	<-13	Pass

## 2 Test Plot

### 2.1 5M\_B

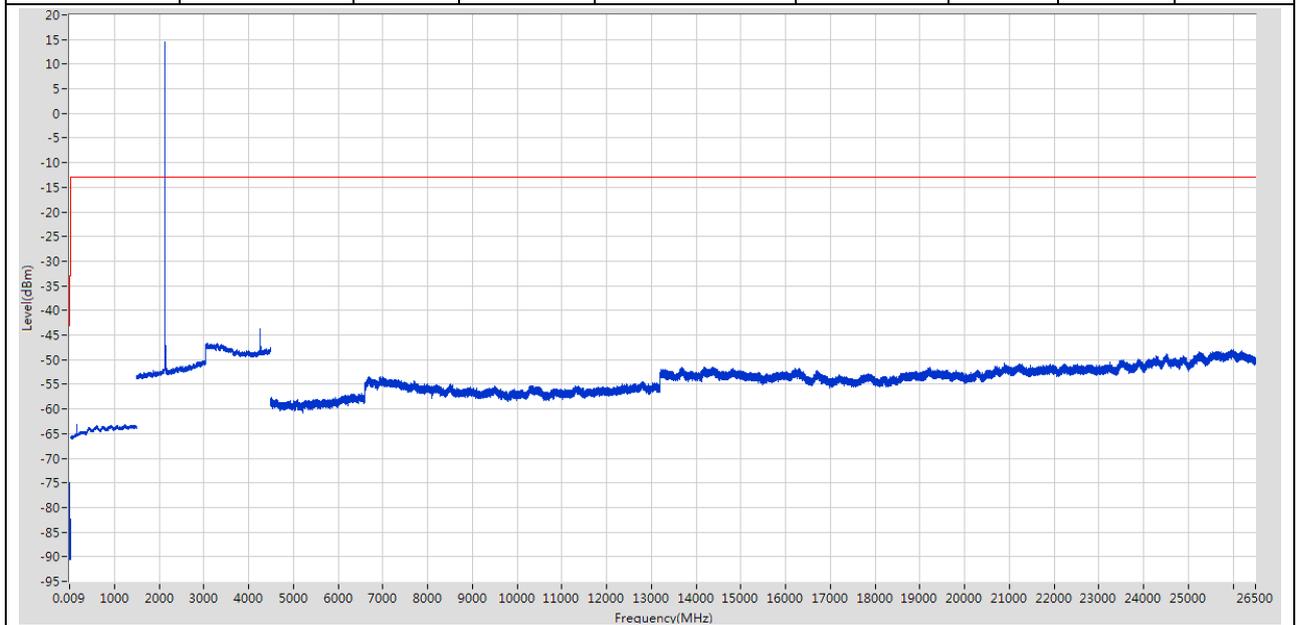
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.401 k	-78.6	-43	Pass	705
0.15	30	0.01	RMS	350.024 k	-75.8	-33	Pass	14925
30	1500	1	RMS	1228.763097 M	-63.27	-13	Pass	7350
1500	4500	1	RMS	2113.074838 M	14.18	-13	---	15000
4500	26500	1	RMS	26001.457722 M	-48.02	-13	Pass	110000





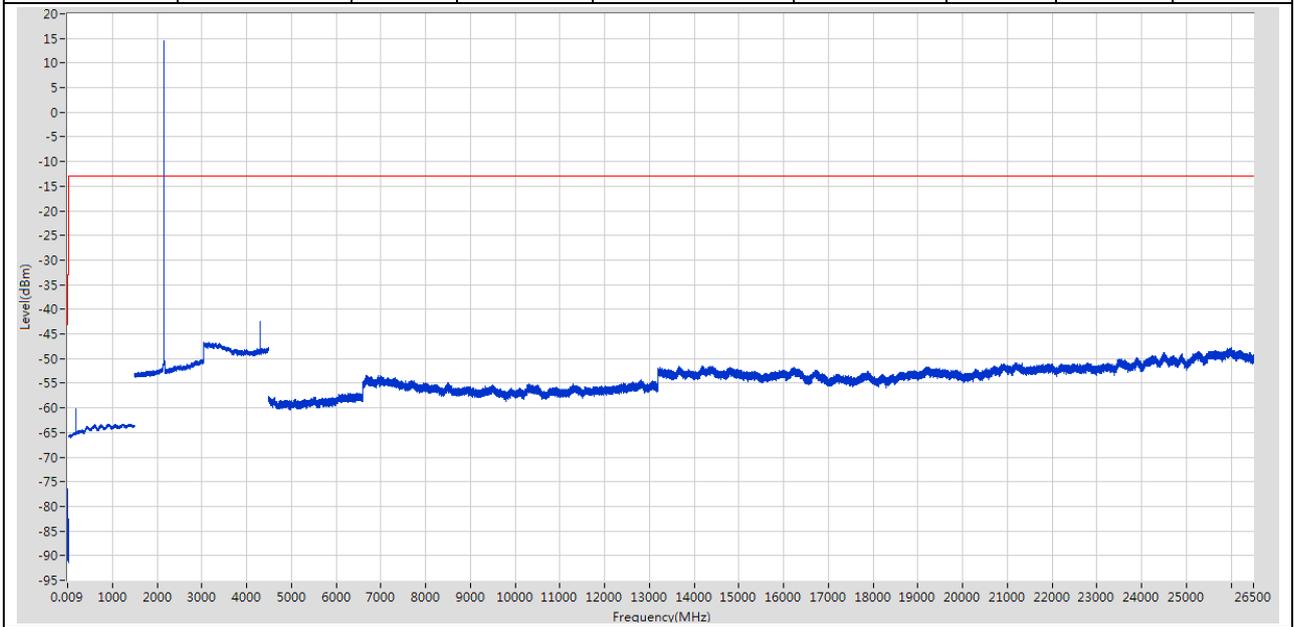
## 2.2 5M\_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9.2 k	-78.36	-43	Pass	705
0.15	30	0.01	RMS	192.005 k	-74.95	-33	Pass	14925
30	1500	1	RMS	171.819295 M	-63.06	-13	Pass	7350
1500	4500	1	RMS	2132.477207 M	14.6	-13	---	15000
4500	26500	1	RMS	25964.047045 M	-47.88	-13	Pass	110000



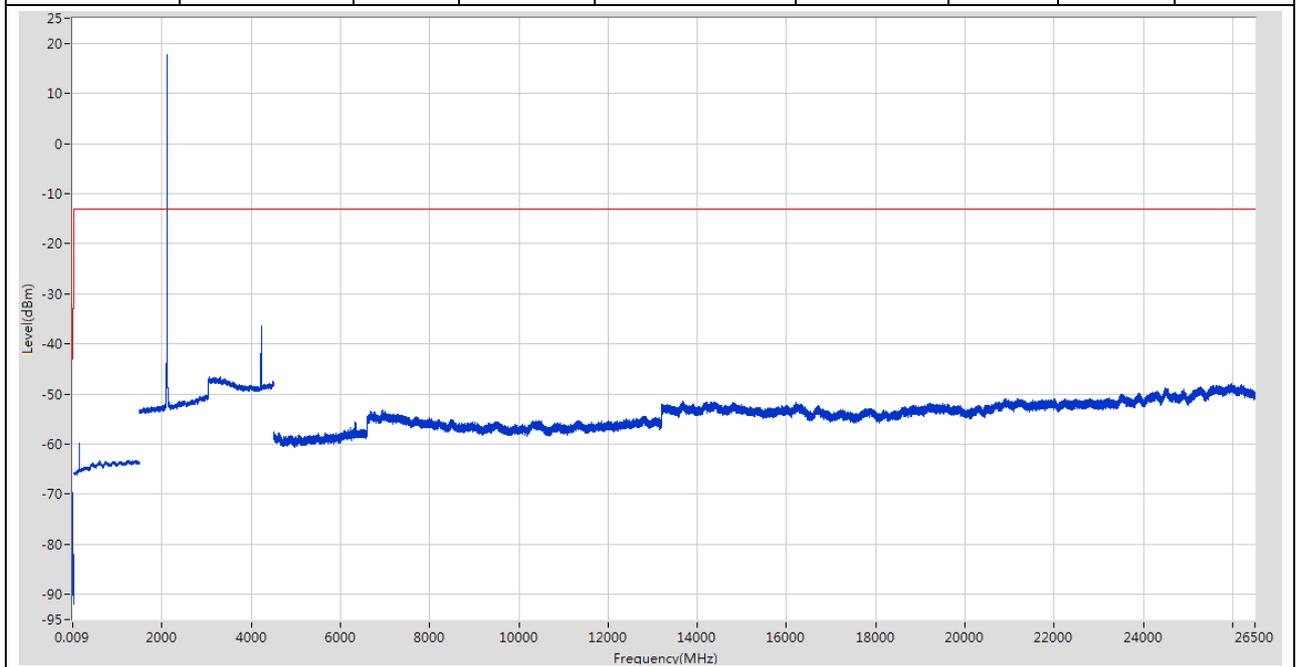
### 2.3 5M\_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	9 k	-78.42	-43	Pass	705
0.15	30	0.01	RMS	204.007 k	-76.53	-33	Pass	14925
30	1500	1	RMS	192.022044 M	-60.19	-13	Pass	7350
1500	4500	1	RMS	2153.079722 M	14.42	-13	---	15000
4500	26500	1	RMS	26006.859263 M	-47.82	-13	Pass	110000



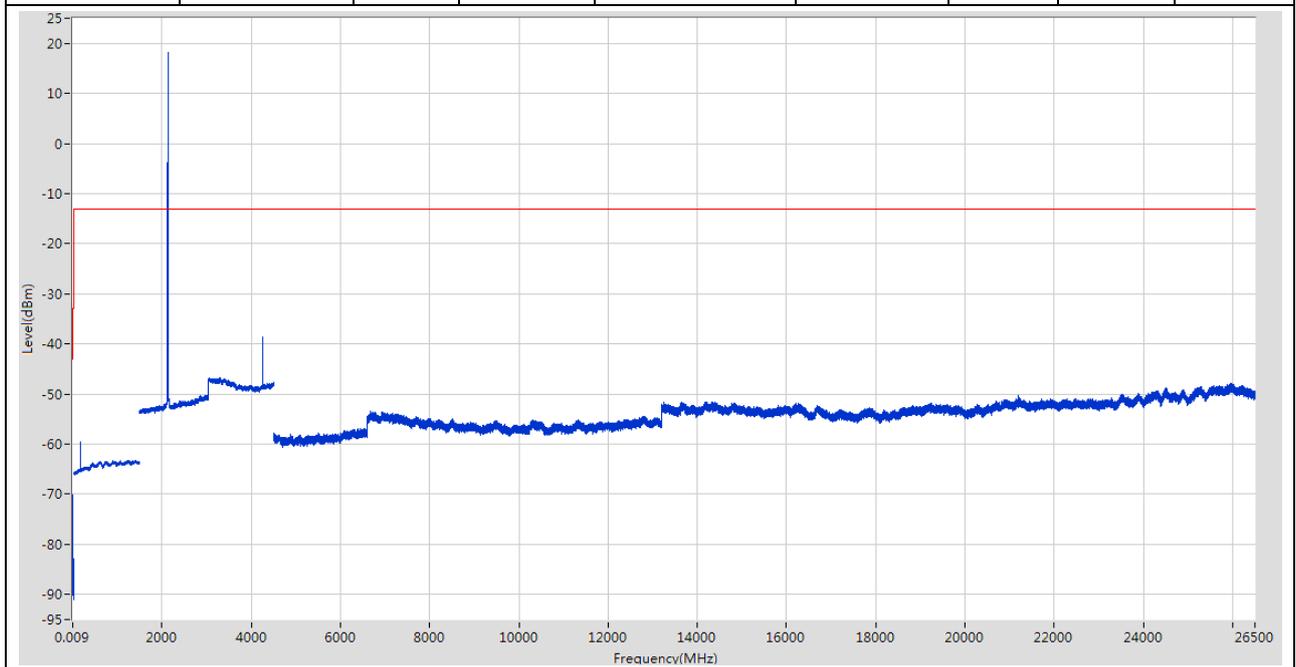
## 2.4 1U\_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.206 k	-75.15	-43	Pass	705
0.15	30	0.01	RMS	238.011 k	-69.62	-33	Pass	14925
30	1500	1	RMS	151.816574 M	-59.68	-13	Pass	7350
1500	4500	1	RMS	2112.874814 M	17.7	-13	---	15000
4500	26500	1	RMS	25970.648929 M	-47.95	-13	Pass	110000



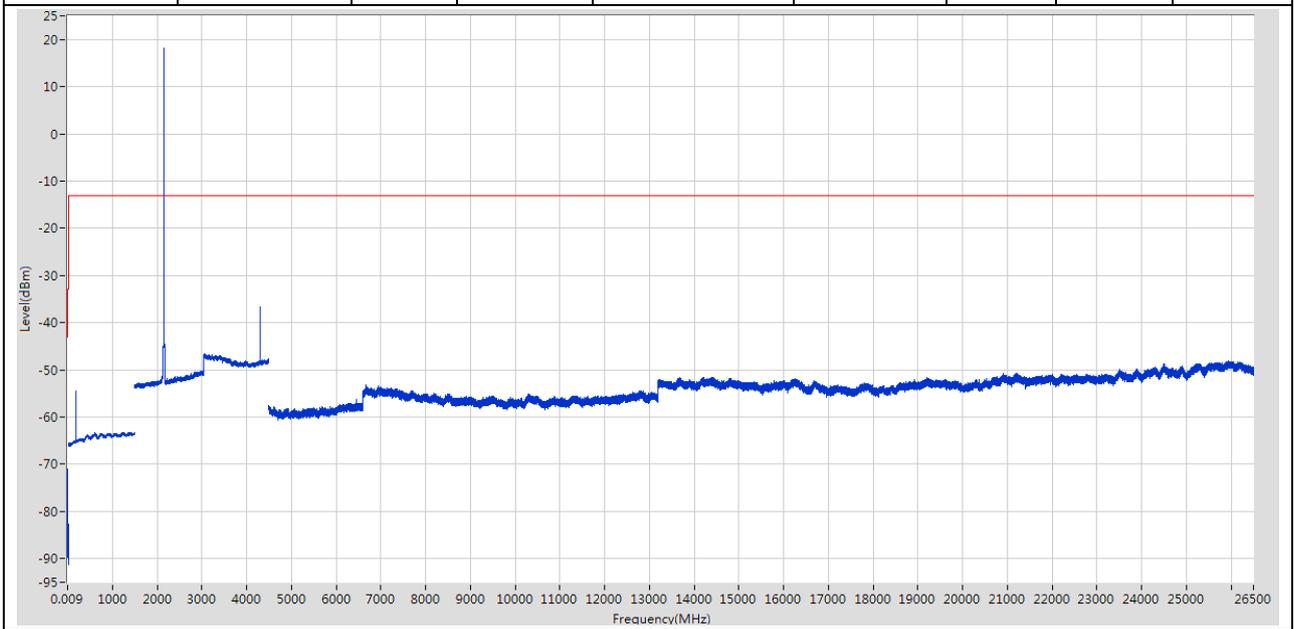
## 2.5 1U\_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.206 k	-74.59	-43	Pass	705
0.15	30	0.01	RMS	244.011 k	-70.19	-33	Pass	14925
30	1500	1	RMS	171.619268 M	-59.47	-13	Pass	7350
1500	4500	1	RMS	2132.477207 M	18.1	-13	---	15000
4500	26500	1	RMS	25957.245104 M	-47.97	-13	Pass	110000



## 2.6 1U\_T

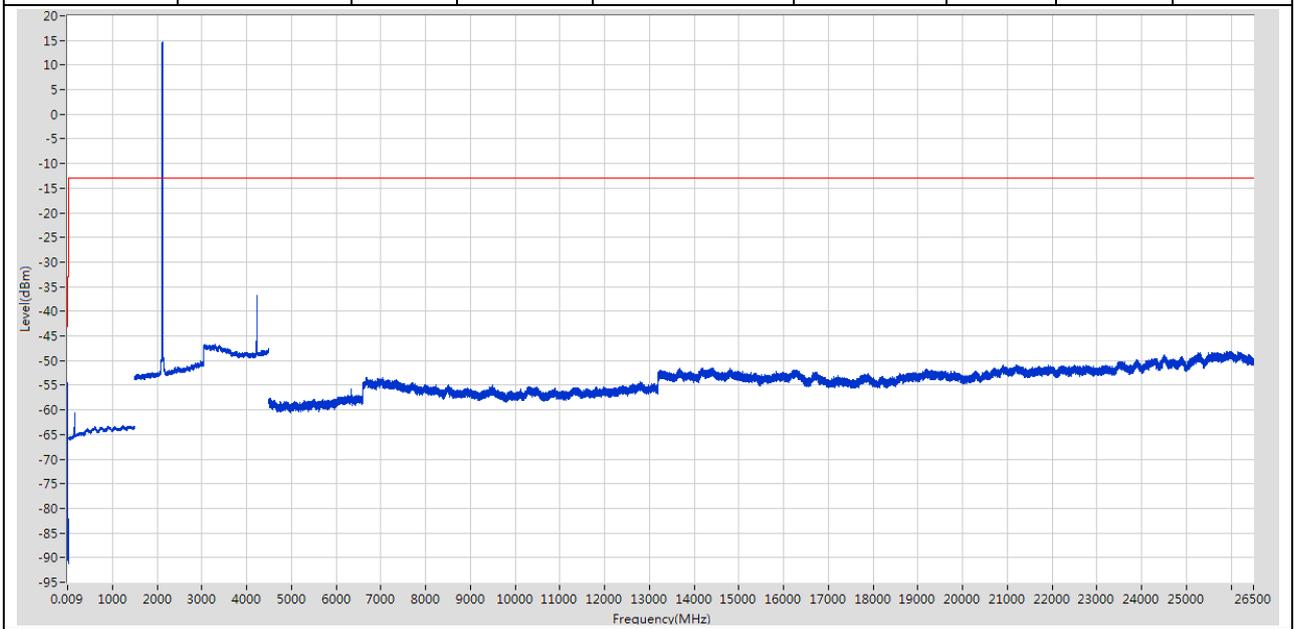
Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.006 k	-75.78	-43	Pass	705
0.15	30	0.01	RMS	240.011 k	-71.1	-33	Pass	14925
30	1500	1	RMS	191.822017 M	-54.6	-13	Pass	7350
1500	4500	1	RMS	2152.879697 M	18.21	-13	---	15000
4500	26500	1	RMS	25950.243106 M	-48.09	-13	Pass	110000





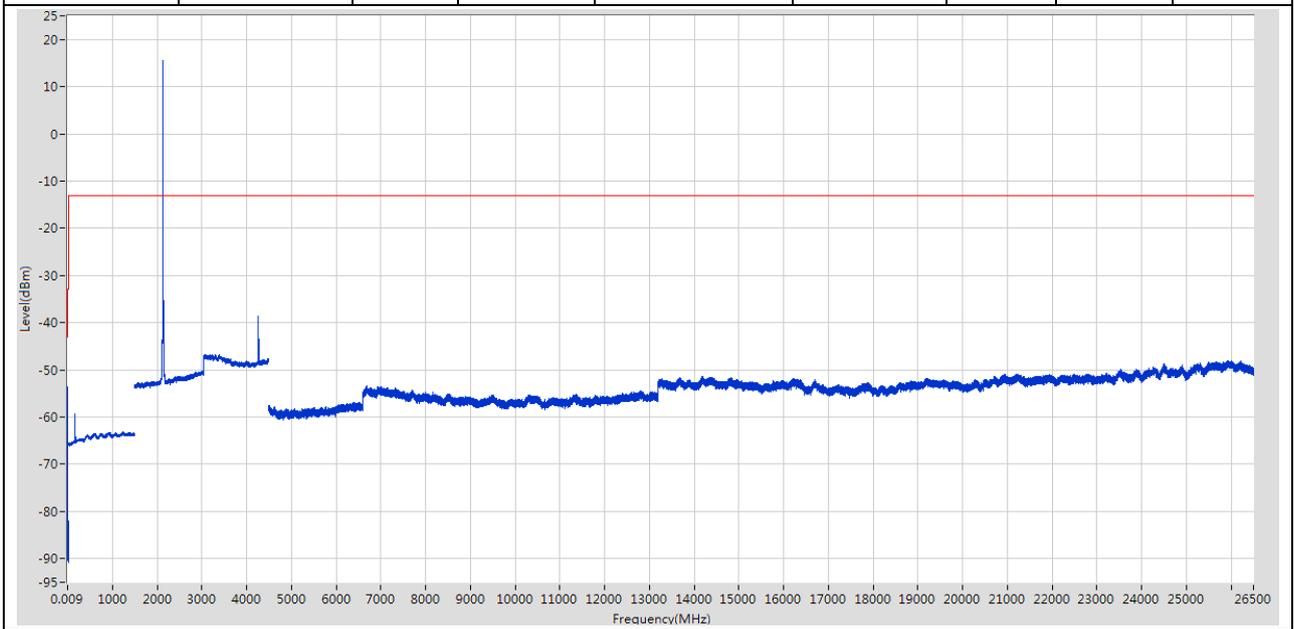
## 2.7 2U\_B

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.006 k	-74.94	-43	Pass	705
0.15	30	0.01	RMS	5.000592 M	-54.5	-33	Pass	14925
30	1500	1	RMS	154.416927 M	-60.59	-13	Pass	7350
1500	4500	1	RMS	2117.475375 M	14.82	-13	---	15000
4500	26500	1	RMS	26000.257379 M	-48.18	-13	Pass	110000



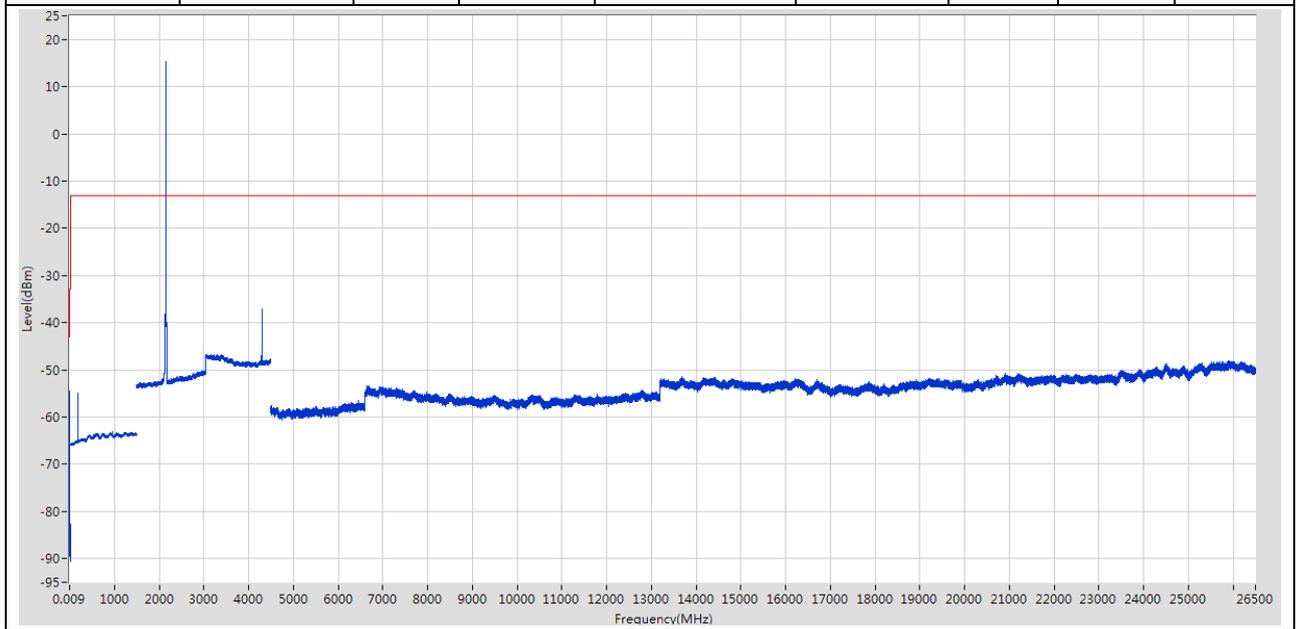
## 2.8 2U\_M

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.206 k	-74.21	-43	Pass	705
0.15	30	0.01	RMS	5.000592 M	-53.69	-33	Pass	14925
30	1500	1	RMS	171.619268 M	-59.42	-13	Pass	7350
1500	4500	1	RMS	2129.276816 M	15.57	-13	---	15000
4500	26500	1	RMS	25922.235113 M	-48.01	-13	Pass	110000



## 2.9 2U\_T

Start Frequency [MHz]	Stop Frequency [MHz]	RBW [MHz]	Detector	Frequency [Hz]	Emission [dBm]	Limit [dBm]	Verdict	Sweep Point
0.009	0.15	0.001	RMS	13.206 k	-75.13	-43	Pass	705
0.15	30	0.01	RMS	4.998592 M	-54.54	-33	Pass	14925
30	1500	1	RMS	189.42169 M	-54.95	-13	Pass	7350
1500	4500	1	RMS	2151.679551 M	15.27	-13	---	15000
4500	26500	1	RMS	25886.024779 M	-48.13	-13	Pass	110000





# Appendix E1: Frequency Stability

## 1 Result Table

### 1.1 Frequency Error

(1) Frequency Error vs. Temperature:

EUT Conf.	Voltage	Temperature	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Verdict
5M_M	100%	-30 °C	-1.21	-0.0005674	0.0004971	Pass
		-20 °C	-2.11	-0.0009894	0.0000750	Pass
		-10 °C	-4.05	-0.0018992	-0.0008347	Pass
		0 °C	-2.54	-0.0011911	-0.0001266	Pass
		+10 °C	-2.76	-0.0012943	-0.0002298	Pass
		+20 °C	-2.27	-0.0010645	---	Pass
		+30 °C	-3.01	-0.0014115	-0.000347	Pass
		+40 °C	-1.64	-0.0007691	0.0002954	Pass
		+50 °C	-3	-0.0014068	-0.0003423	Pass

(2) Frequency Error vs. Voltage:

EUT Conf.	Temperature	Voltage	Freq. Error [Hz]	Freq. vs. rated [ppm]	Freq. vs. 20 °C [ppm]	Verdict
5M_M	+20 °C	85 %	-1.78	-0.0008347	0.0002298	Pass
		100 %	-2.27	-0.0010645	---	Pass
		115 %	-2.86	-0.0013411	-0.0002767	Pass

### 1.2 Frequency Range

(Not applicable)



## 2 Test Plot

NOTE: Only the test plots for the measurements of Frequency Range are supplied.

(Not applicable)



# Appendix F1: Receiver Spurious Emissions



## 1 Result Table

(Not applicable)

## 2 Test Plot

(Not applicable)

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END