



# Appendix A: 20dB Emission Bandwidth (EBW)



## 1 Result Table

EUT Conf.	EBW [MHz]	Verdict
TM1_DH5_Ch0	0.95	Pass
TM1_DH5_Ch39	0.94	Pass
TM1_DH5_Ch78	0.95	Pass
TM2_2DH5_Ch0	1.27	Pass
TM2_2DH5_Ch39	1.27	Pass
TM2_2DH5_Ch78	1.27	Pass
TM3_3DH5_Ch0	1.27	Pass
TM3_3DH5_Ch39	1.27	Pass
TM3_3DH5_Ch78	1.27	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0





## 2.2 TM1\_DH5\_Ch39



### 2.3 TM1\_DH5\_Ch78



2.4 TM2\_2DH5\_Ch0





### 2.5 TM2\_2DH5\_Ch39





### 2.6 TM2\_2DH5\_Ch78







### 2.7 TM3\_3DH5\_Ch0





### 2.8 TM3\_3DH5\_Ch39





### 2.9 TM3\_3DH5\_Ch78





# Appendix B: Carrier Frequency Separation



## 1 Result Table

EUT Conf.	Carrier Frequency Separation [MHz]	Verdict
TM1_DH5_Hop	1	Pass
TM2_2DH5_Hop	0.85	Pass
TM3_3DH5_Hop	0.95	Pass

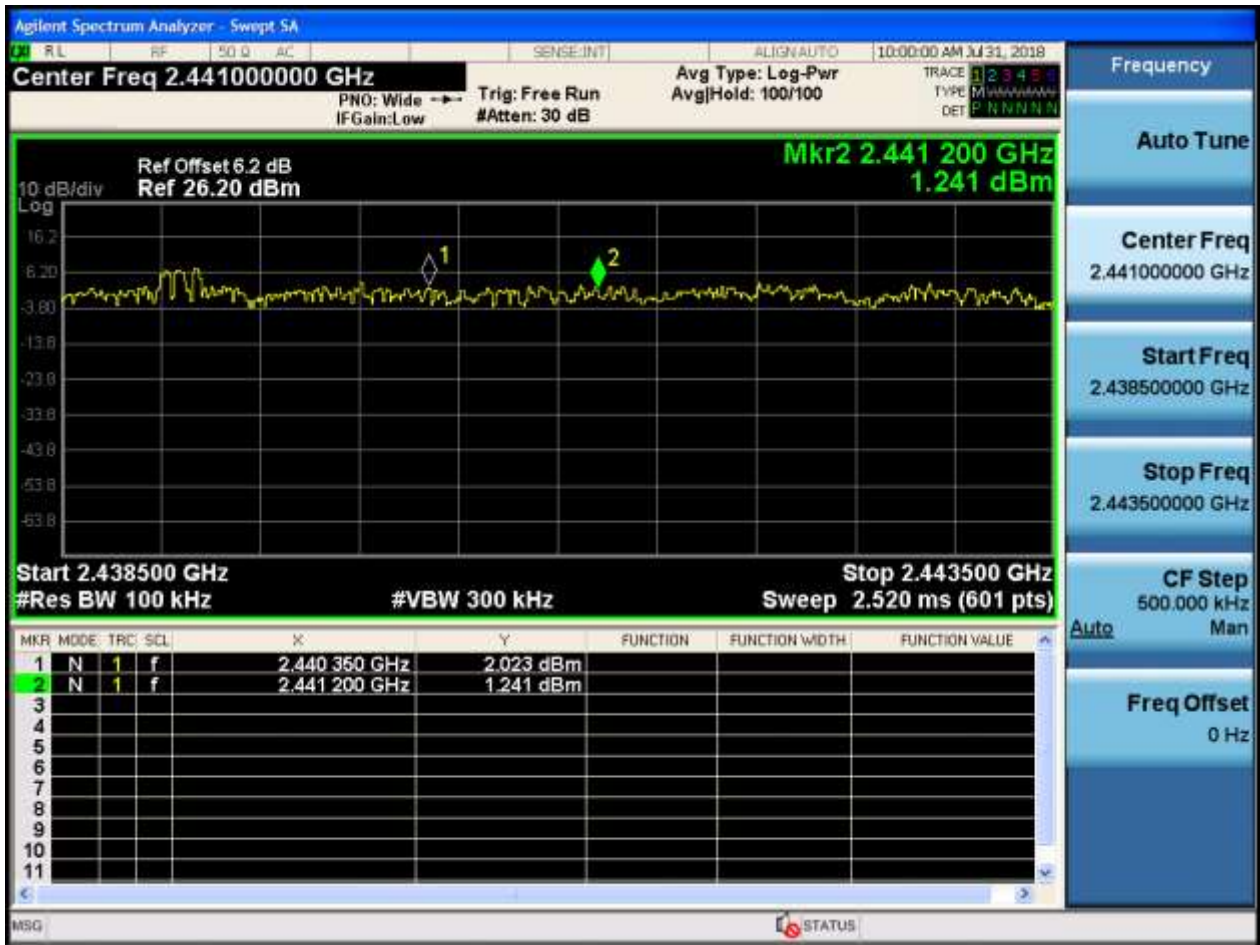


## 2 Test Plot

### 2.1 TM1\_DH5\_Hop

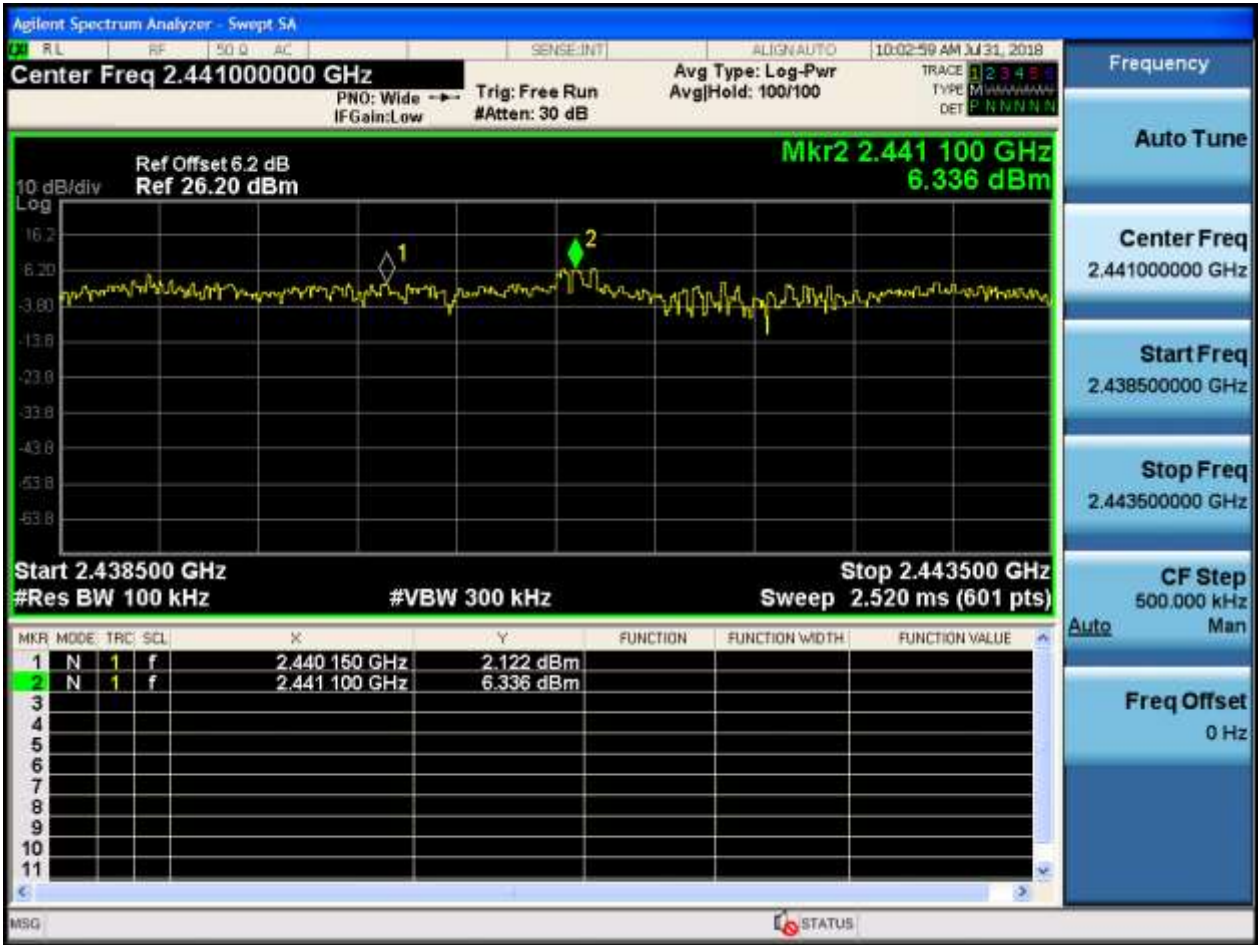


## 2.2 TM2\_2DH5\_Hop





### 2.3 TM3\_3DH5\_Hop







# Appendix C: Number of Hopping Channel



## 1 Result Table

EUT Conf.	Number of Hopping Channel	Verdict
TM1_DH5_Hop	79	Pass
TM2_2DH5_Hop	79	Pass
TM3_3DH5_Hop	79	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Hop





## 2.2 TM2\_2DH5\_Hop





### 2.3 TM3\_3DH5\_Hop





# Appendix D: Time of Occupancy (Dwell Time)



## 1 Result Table

The Dwell Time = Burst Width \* Total Hops. The detailed calculations are showed as follows:

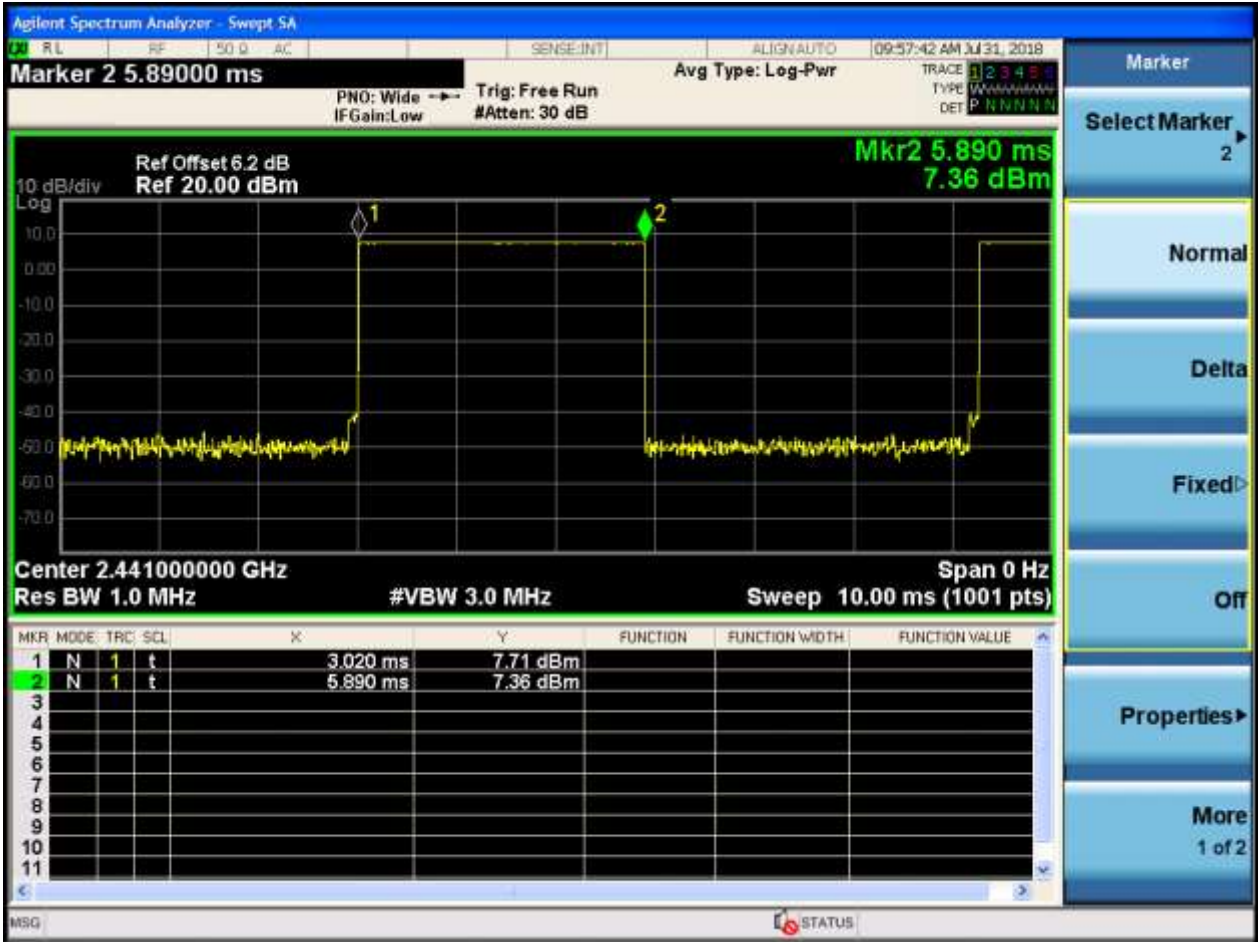
- The duration for dwell time calculation:  $0.4 \text{ [s]} * \text{hopping number} = 0.4 \text{ [s]} * 79 \text{ [ch]} = 31.6 \text{ [s*ch]}$ ;
- The burst width [ms/hop/ch], which is directly measured, refers to the duration on one channel hop.
- The hops per second for all channels: The selected EUT Conf uses a slot type of 5-Tx&1-Rx and a hopping rate of 1600 [ch\*hop/s] for all channels. So the final hopping rate for all channels is  $1600 / 6 = 266.67 \text{ [ch*hop/s]}$ ;
- The hops per second on one channel:  $266.67 \text{ [ch*hop/s]} / 79 \text{ [ch]} = 3.38 \text{ [hop/s]}$ ;
- The total hops for all channels within the dwell time calculation duration:  $3.38 \text{ [hop/s]} * 31.6 \text{ [s*ch]} = 106.67 \text{ [hop*ch]}$ ;
- The dwell time for all channels hopping:  $106.67 \text{ [hop*ch]} * \text{Burst Width [ms/hop/ch]}$ .

EUT Conf.	Burst Width [s/hop/ch]	Total Hops [hop*ch]	Dwell Time [ms]	Verdict
TM1_DH5_Ch39	0.0029	106.67	0.309	Pass
TM2_2DH5_Ch39	0.0029	106.67	0.309	Pass
TM3_3DH5_Ch39	0.0029	106.67	0.309	Pass

## 2 Test Plot

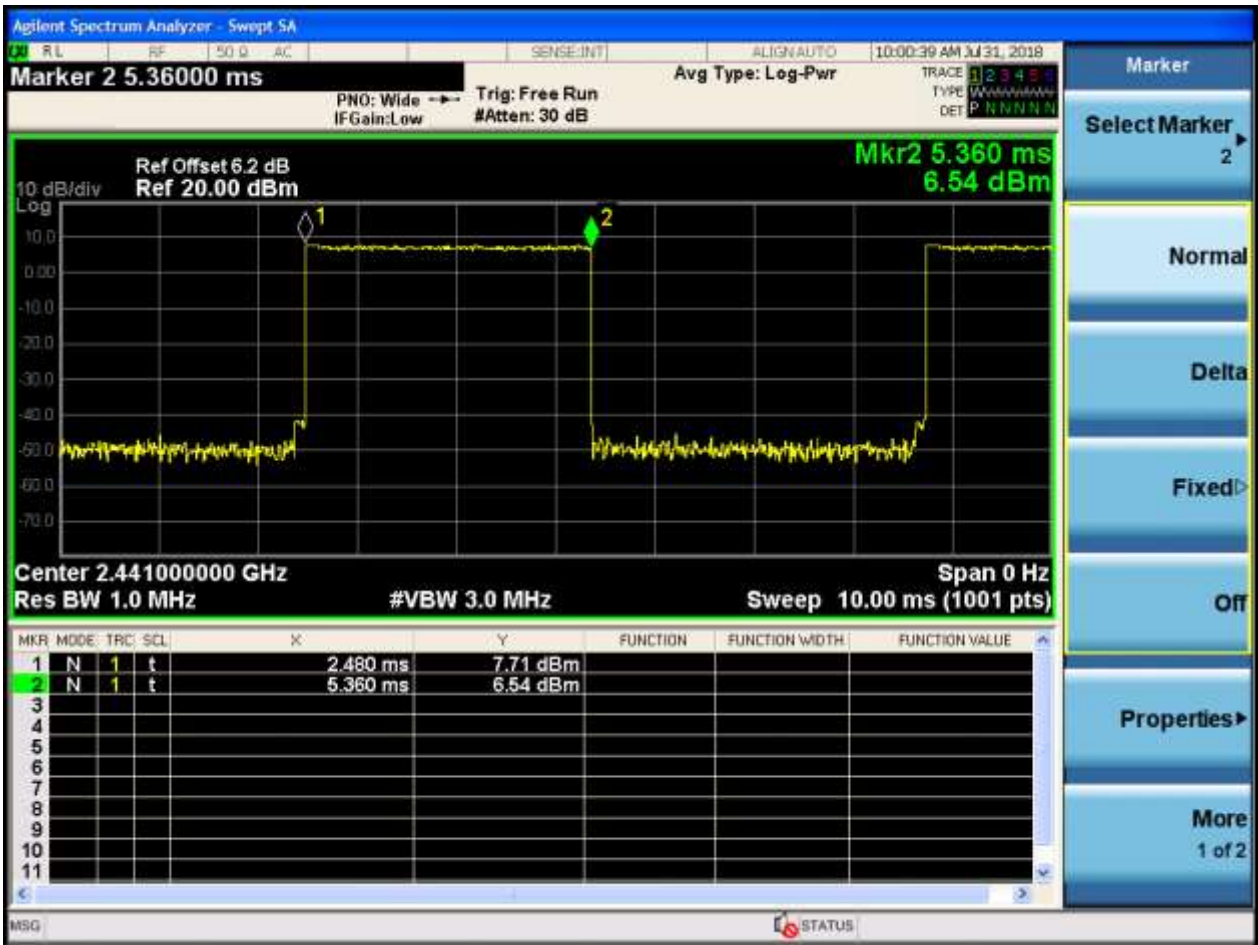
NOTE: The test plots are only for Burst Width measurements.

### 2.1 TM1\_DH5\_Ch39

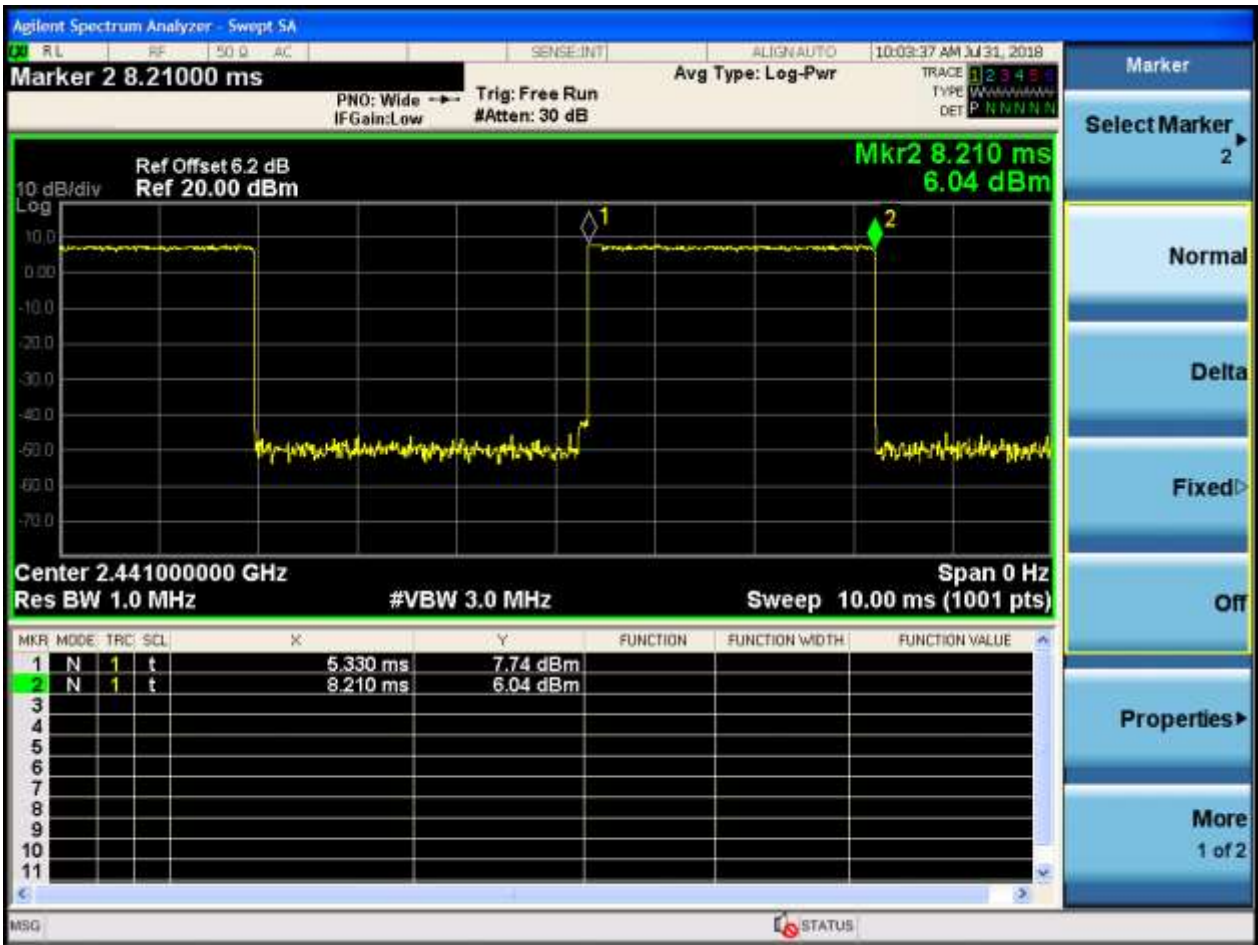




2.2 TM2\_2DH5\_Ch39



2.3 TM3\_3DH5\_Ch39





# Appendix E: Maximum Peak Conducted Output Power



## 1 Result Table

EUT Conf.	Max. Peak Power [dBm]	Verdict
TM1_DH5_Ch0	7.585	Pass
TM1_DH5_Ch39	8.432	Pass
TM1_DH5_Ch78	7.532	Pass
TM2_2DH5_Ch0	7.911	Pass
TM2_2DH5_Ch39	8.767	Pass
TM2_2DH5_Ch78	7.894	Pass
TM3_3DH5_Ch0	7.954	Pass
TM3_3DH5_Ch39	8.769	Pass
TM3_3DH5_Ch78	7.910	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0



2.2 TM1\_DH5\_Ch39







### 2.4 TM2\_2DH5\_Ch0







### 2.5 TM2\_2DH5\_Ch39

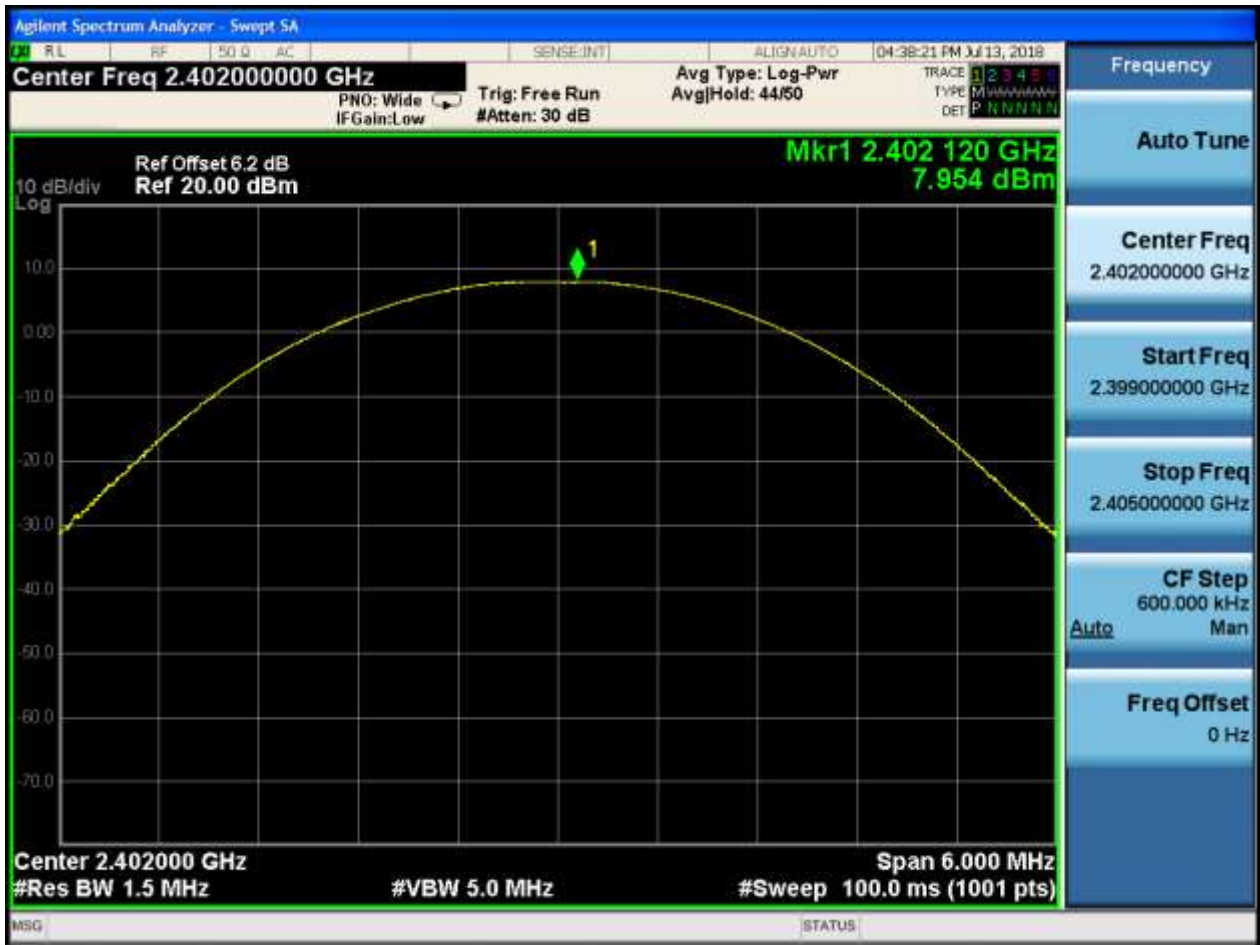


### 2.6 TM2\_2DH5\_Ch78





### 2.7 TM3\_3DH5\_Ch0





### 2.8 TM3\_3DH5\_Ch39





### 2.9 TM3\_3DH5\_Ch78





# Appendix F: Band edge spurious emission



## 1 Result Table

EUT Conf.	Channel No.	Carrier Frequency [MHz]	Max. Spurious Level [dBm]	Frequency Hopping	Carrier Power [dBm]	Limit [dBm]	Result
TM1_DH5 _Ch0	0	2402	-48.678	Off	7.626	-12.374	Pass
	-	-	-55.566	On	6.973	-13.027	Pass
TM1_DH5 _Ch78	78	2480	-55.275	Off	6.361	-13.639	Pass
	-	-	-55.954	On	5.781	-14.219	Pass
TM2_2DH 5_Ch0	0	2402	-47.437	Off	7.052	-12.948	Pass
	-	-	-51.276	On	5.737	-14.263	Pass
TM2_2DH 5_Ch78	78	2480	-52.440	Off	6.380	-13.620	Pass
	-	-	-55.770	On	5.615	-14.385	Pass
TM3_3DH 5_Ch0	0	2402	-49.073	Off	7.098	-12.902	Pass
	-	-	-51.882	On	5.535	-14.465	Pass
TM3_3DH 5_Ch78	78	2480	-54.559	Off	6.357	-13.643	Pass
	-	-	-56.643	On	1.736	-18.264	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

No hopping





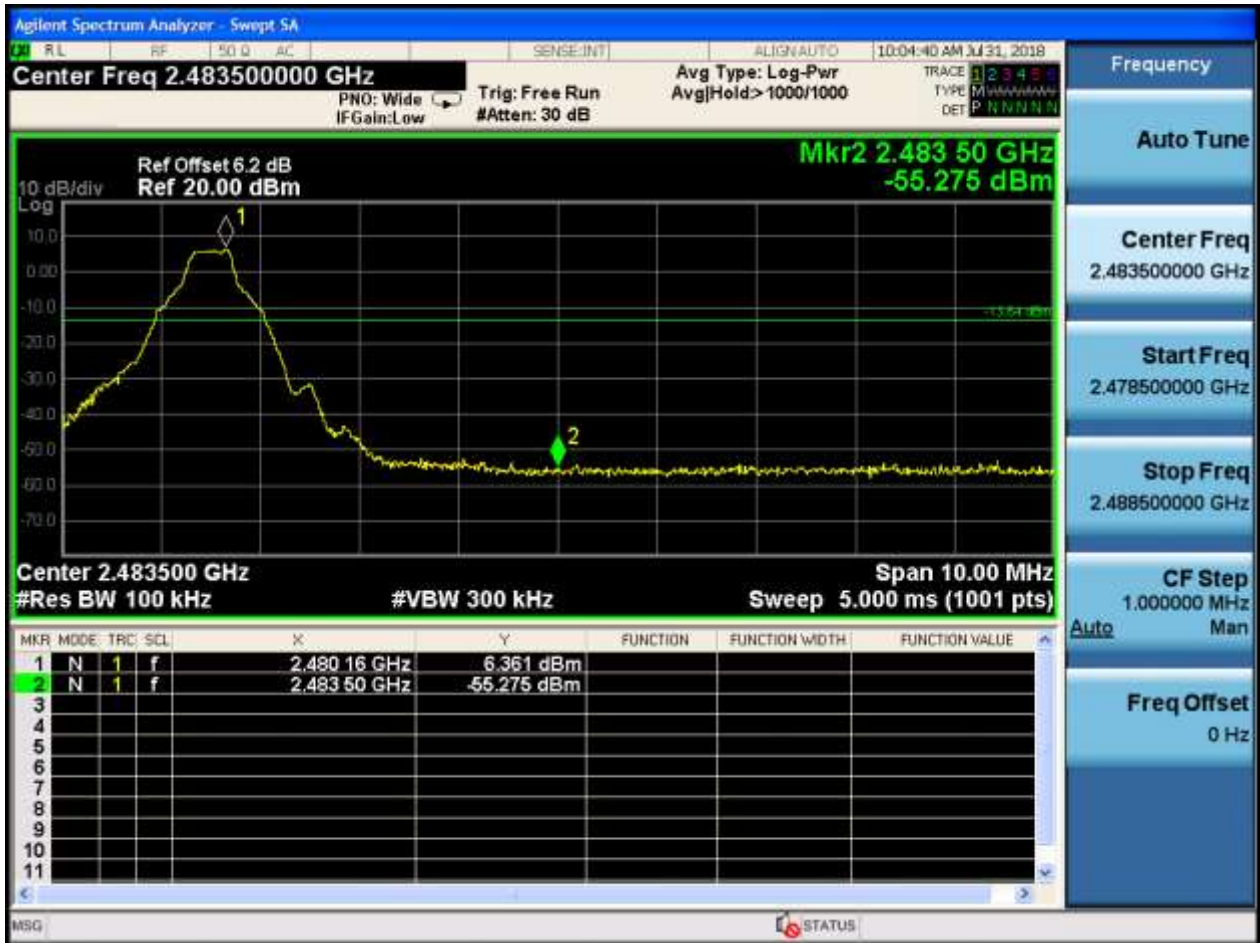
With hopping





## 2.2 TM1\_DH5\_Ch78

No hopping

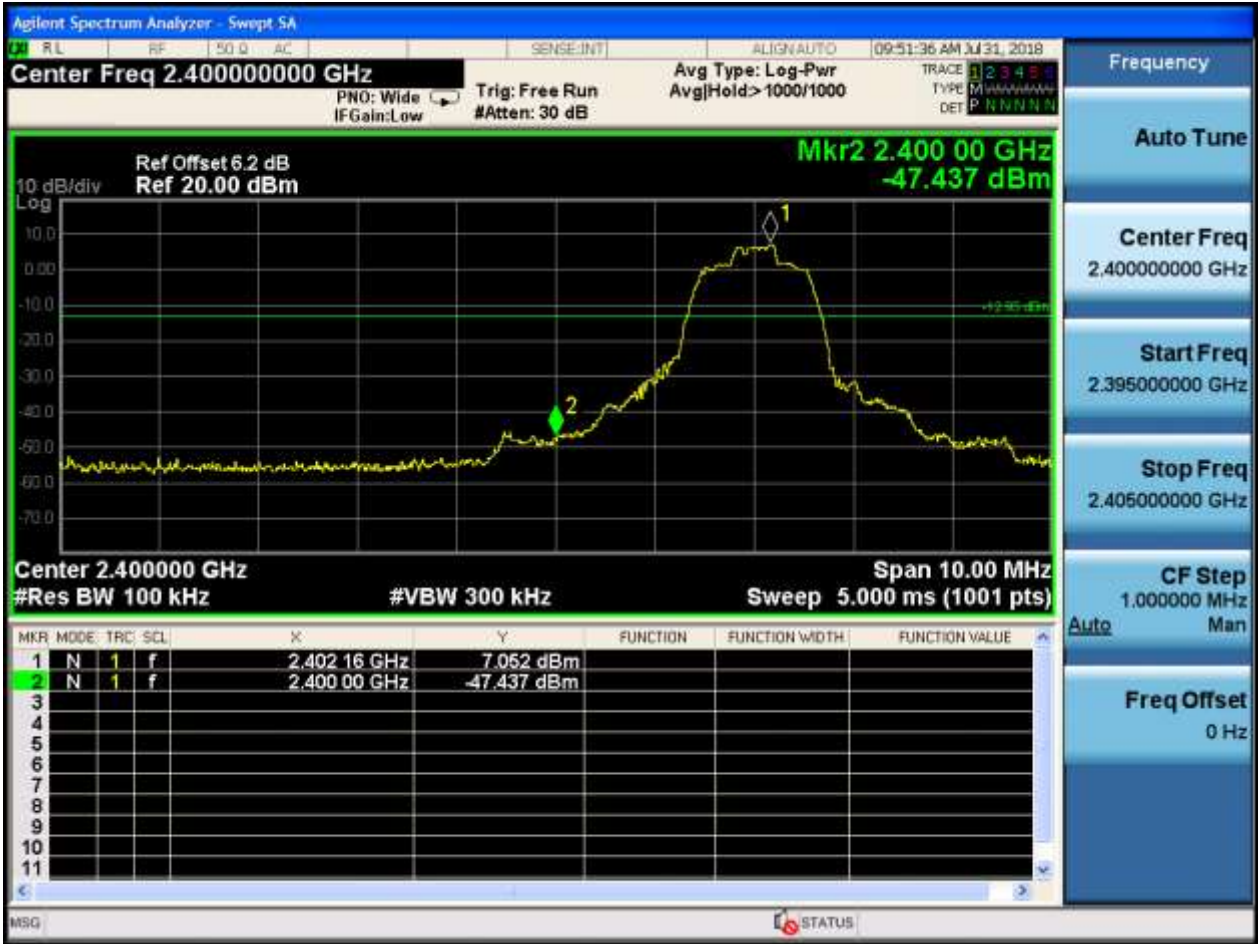


With hopping



2.3 TM2\_2DH5\_Ch0

No hopping



With hopping





2.4 TM2\_2DH5\_Ch78

No hopping



With hopping



2.5 TM3\_3DH5\_Ch0

No hopping





With hopping



2.6 TM3\_3DH5\_Ch78

No hopping



With hopping





# Appendix G: Conducted RF Spurious Emission



## 1 Result Table

In this Appendix, the “Pref” refers to the peak power level in any 100 kHz bandwidth within the fundamental emission which is used as the reference level, the “Puw” refers to the maximum emission power in 100 kHz band segments outside of the authorized frequency band.

Considering that the higher ratio of RBW to the span for the frequency ranges below 30 MHz makes the results determination be complicated, a narrower RBW other than 100 kHz is used for these ranges. The measured value should add a RBW correction factor (RBWCF) where  $RBWCF [dB] = 10 \times \lg(100 [kHz]/\text{narrower RBW [kHz]})$ . As to this Appendix, the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

In the result table, the “< Limit” denotes that “The Puw [dBm] is less than Pref [dBm] - 20 [dB], see test plots for detailed”.

EUT Conf.	Pref [dBm/100 kHz]	Puw [dBm/100 kHz]	Verdict
TM1_DH5_Ch0	7.318	< Limit	Pass
TM1_DH5_Ch39	8.200	< Limit	Pass
TM1_DH5_Ch78	7.235	< Limit	Pass
TM2_2DH5_Ch0	7.353	< Limit	Pass
TM2_2DH5_Ch39	8.217	< Limit	Pass
TM2_2DH5_Ch78	7.283	< Limit	Pass
TM3_3DH5_Ch0	7.374	< Limit	Pass
TM3_3DH5_Ch39	8.221	< Limit	Pass
TM3_3DH5_Ch78	7.305	< Limit	Pass



## 2 Test Plot

### 2.1 TM1\_DH5\_Ch0

#### 2.1.1 Pref

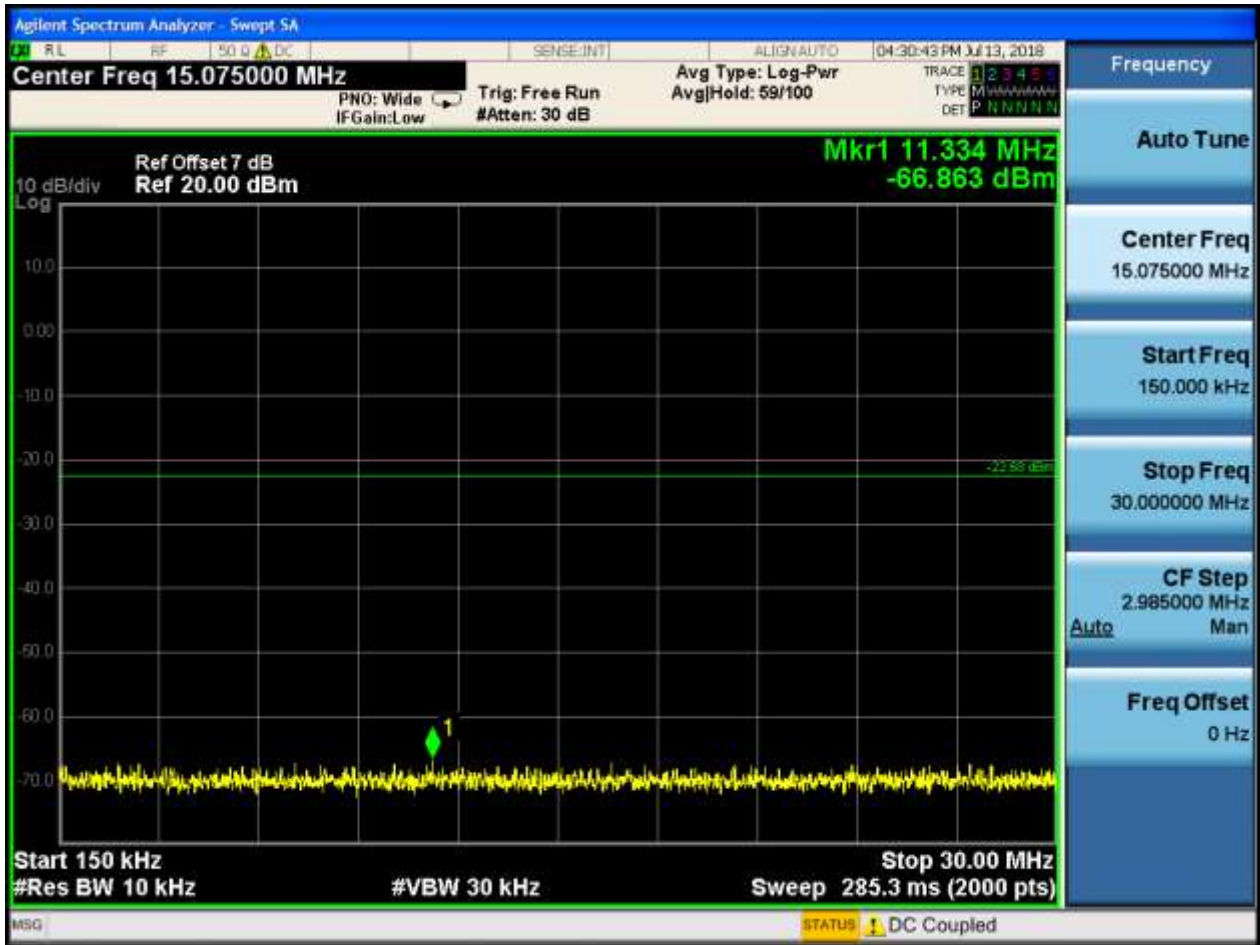




### 2.1.2 Puw

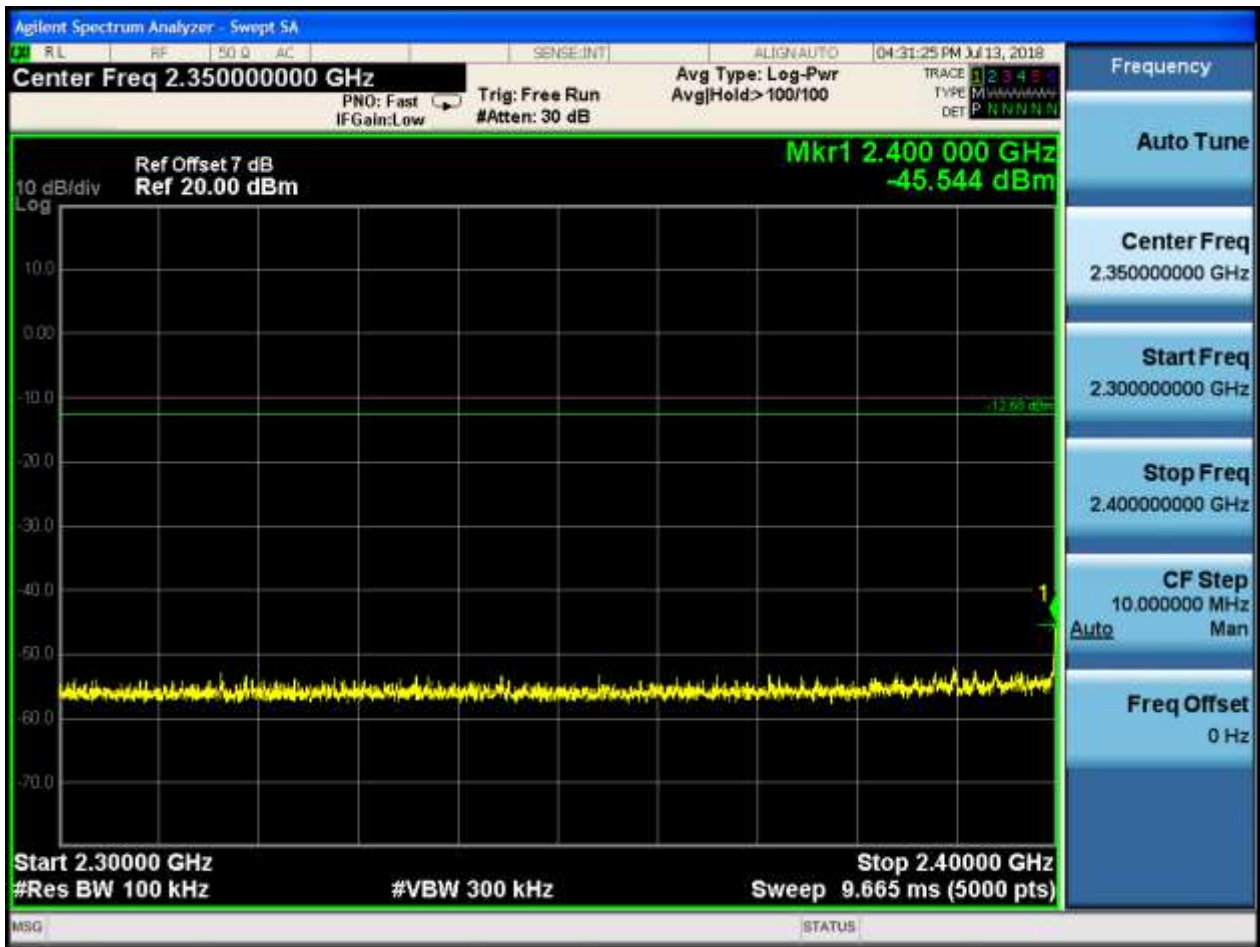


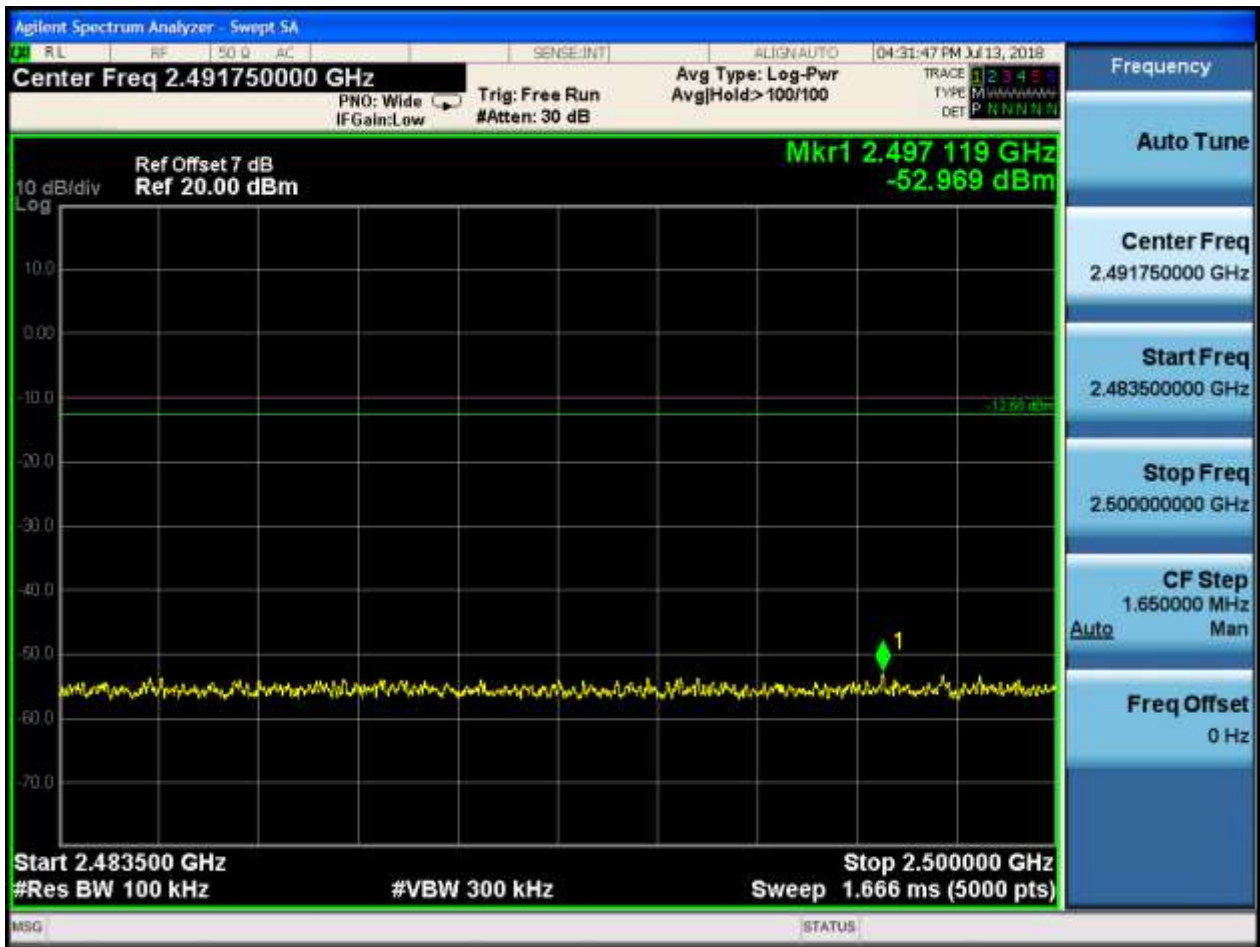
















## 2.2 TM1\_DH5\_Ch39

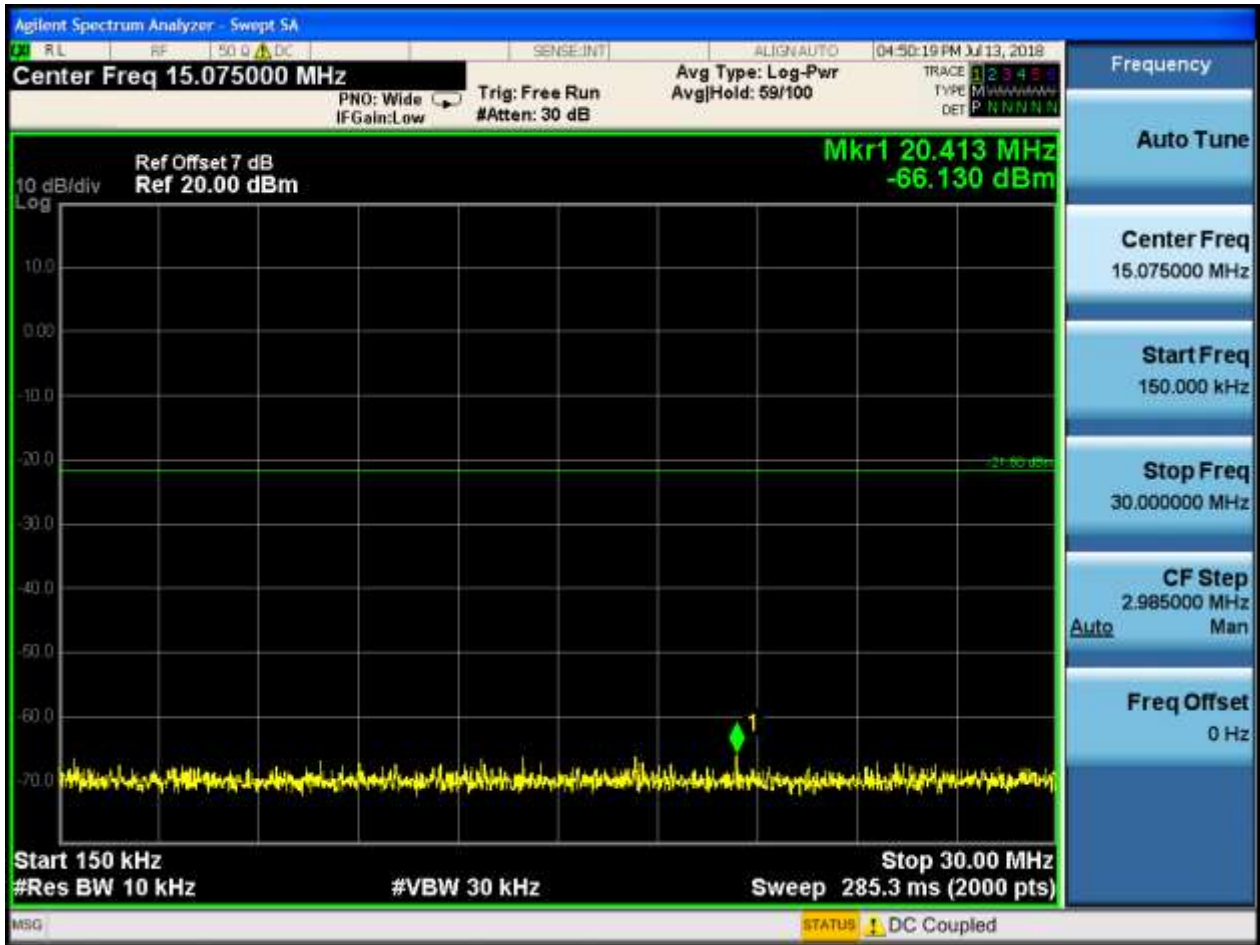
### 2.2.1 Pref



### 2.2.2 P<sub>uw</sub>

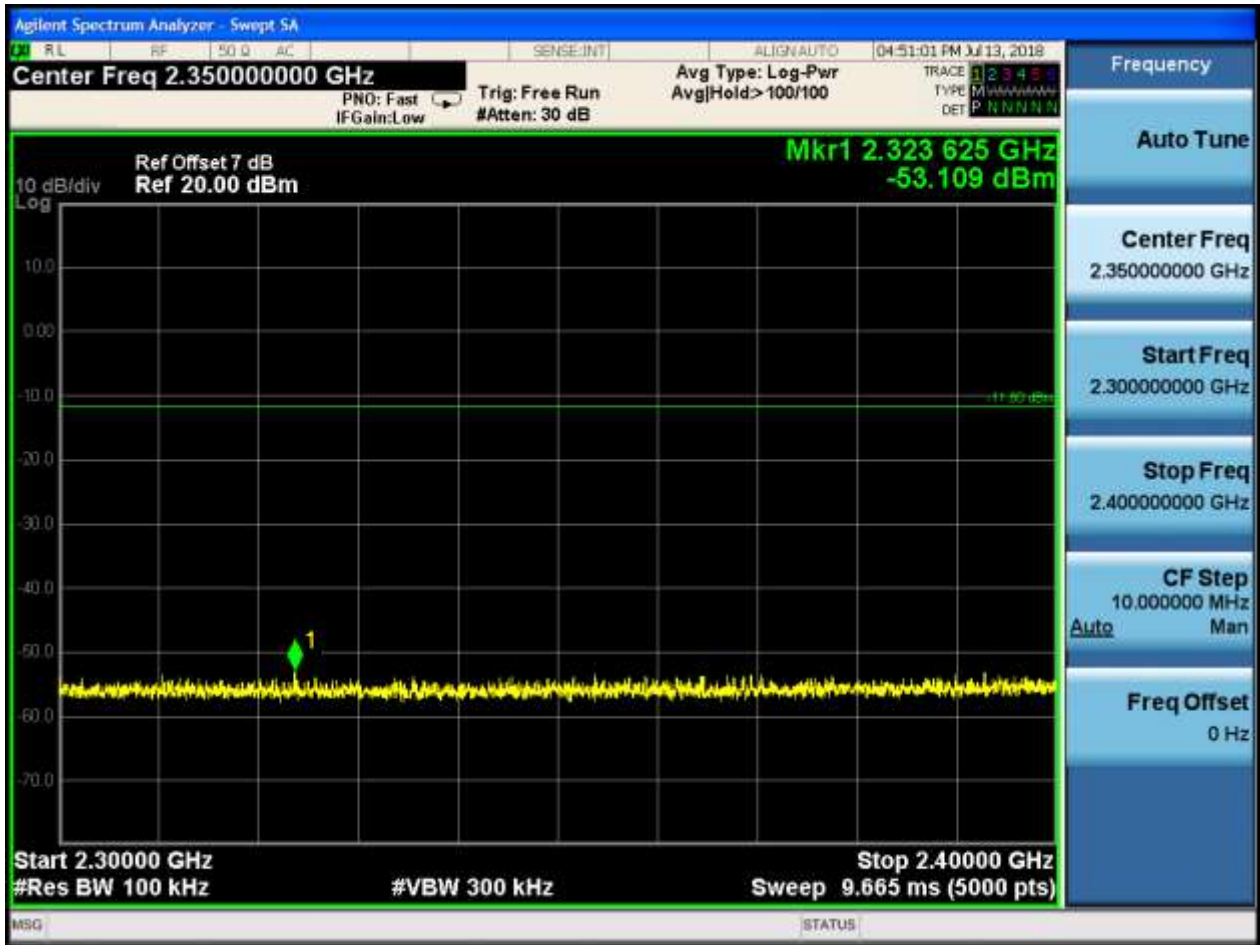


















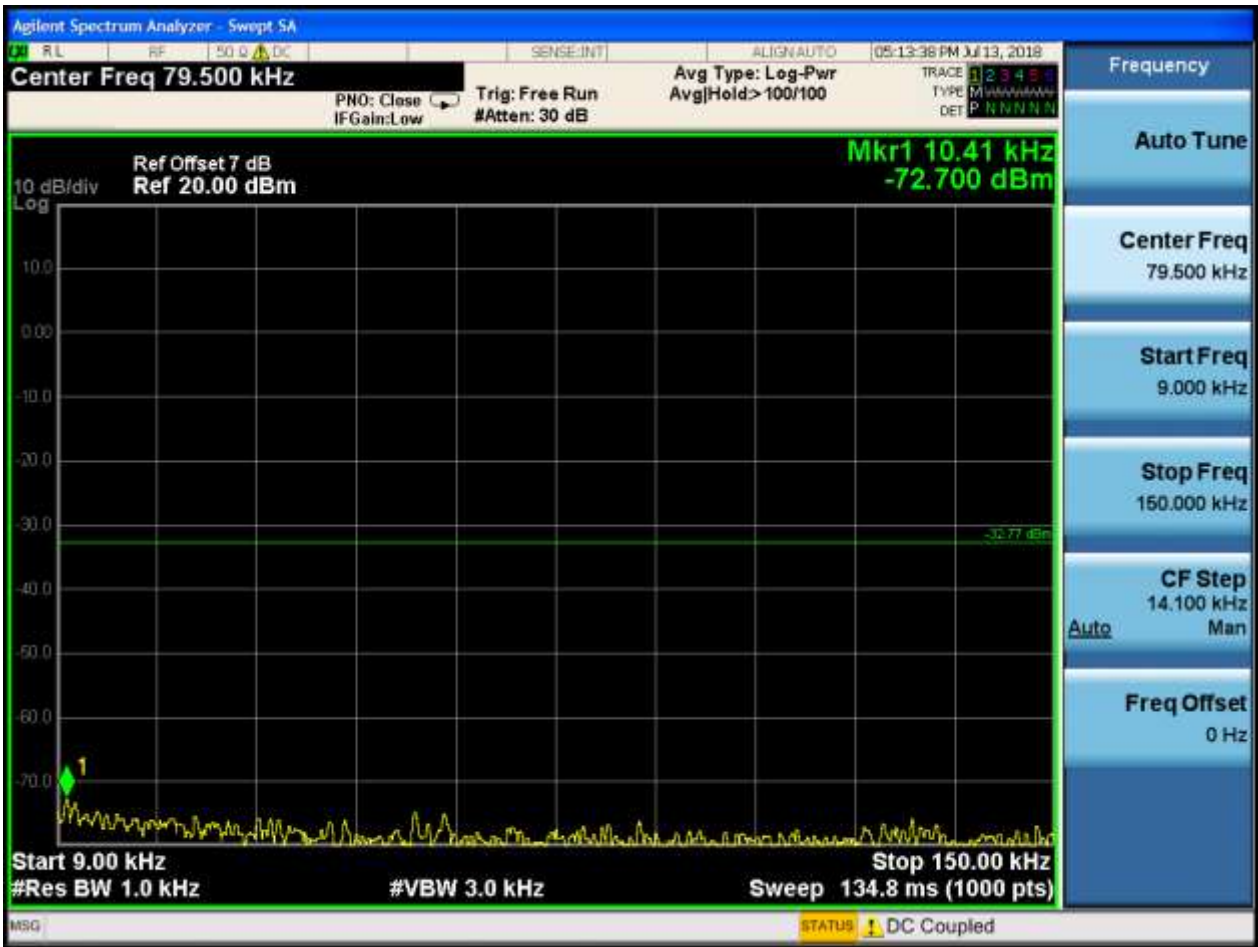
### 2.3 TM1\_DH5\_Ch78

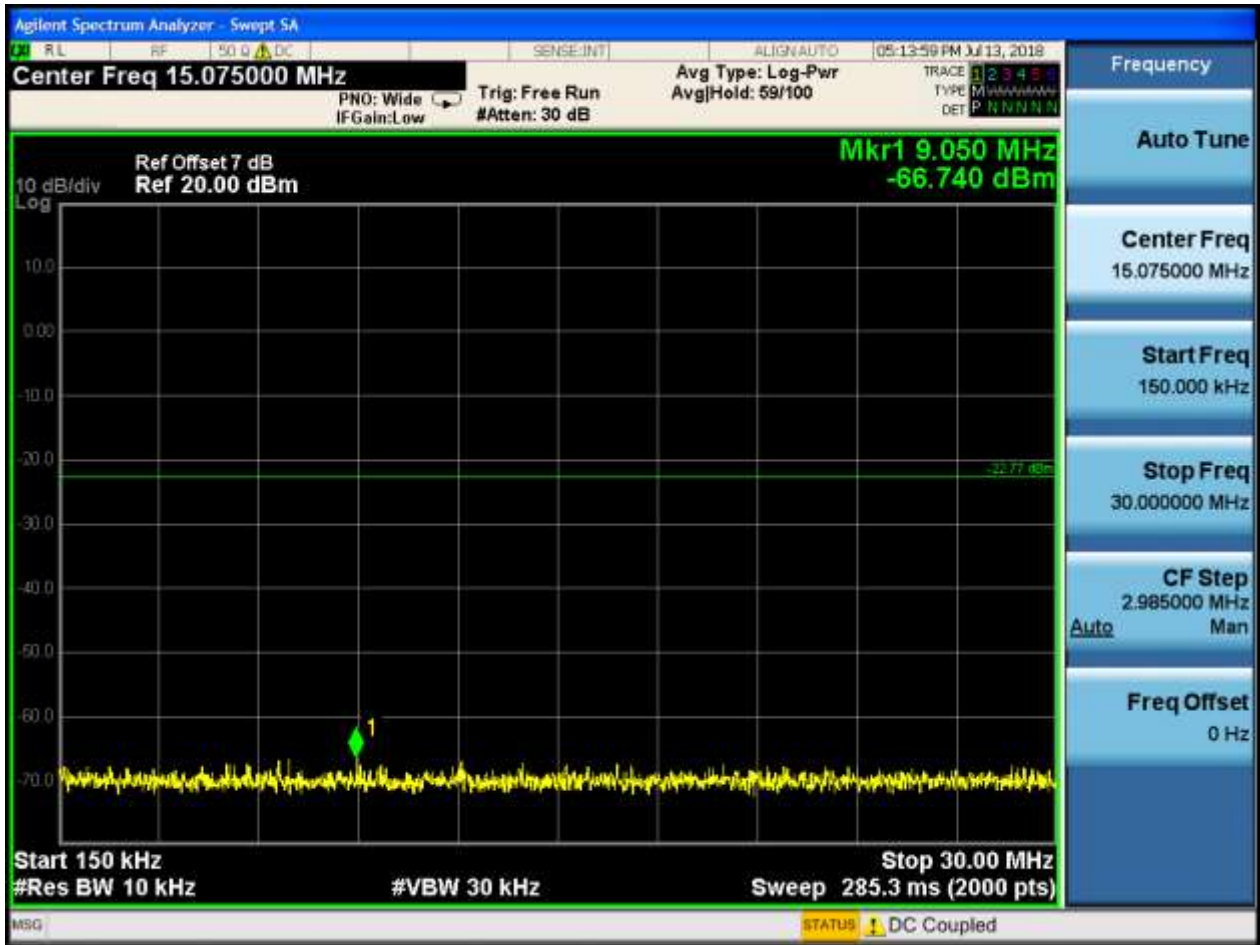
#### 2.3.1 Pref





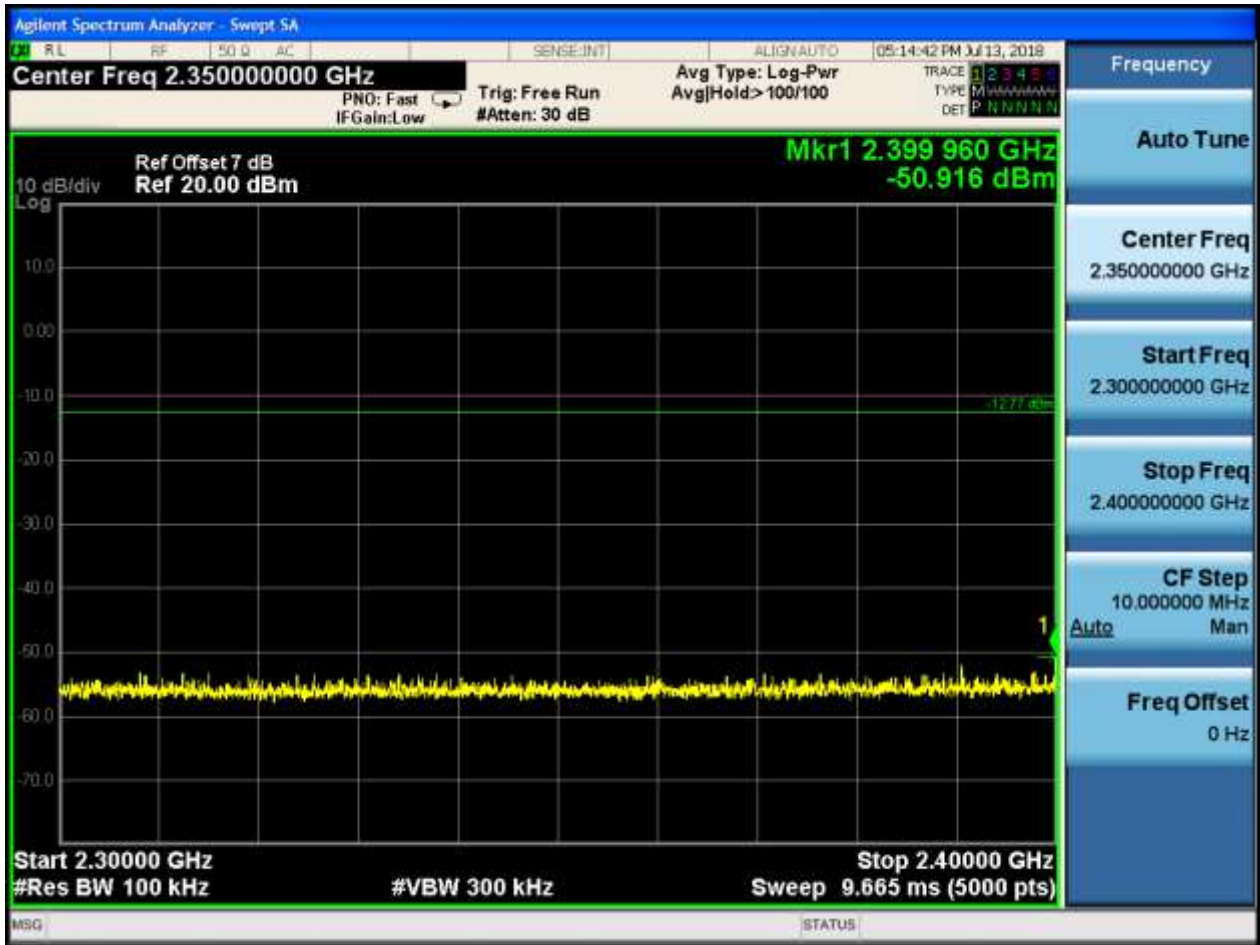
### 2.3.2 Puw



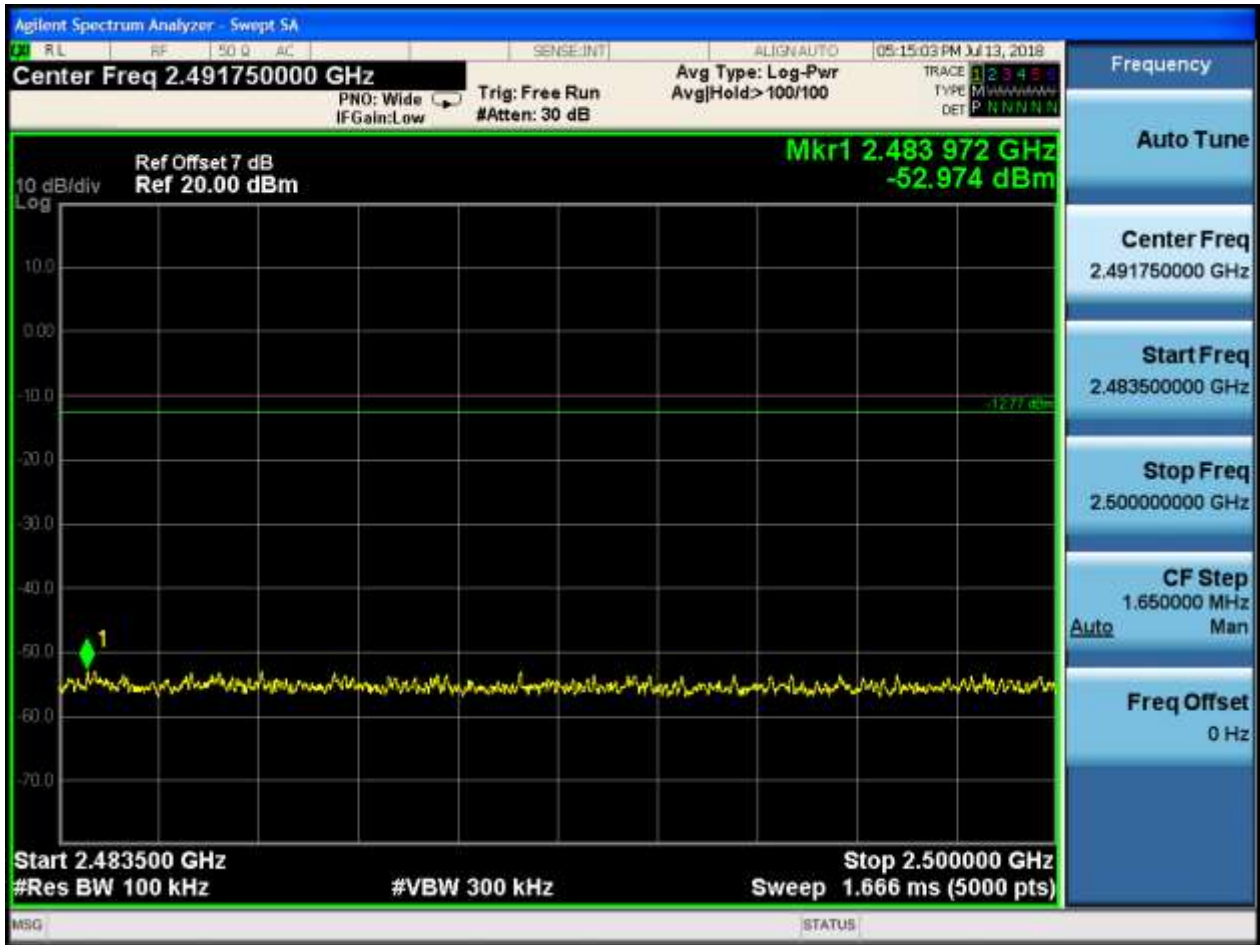














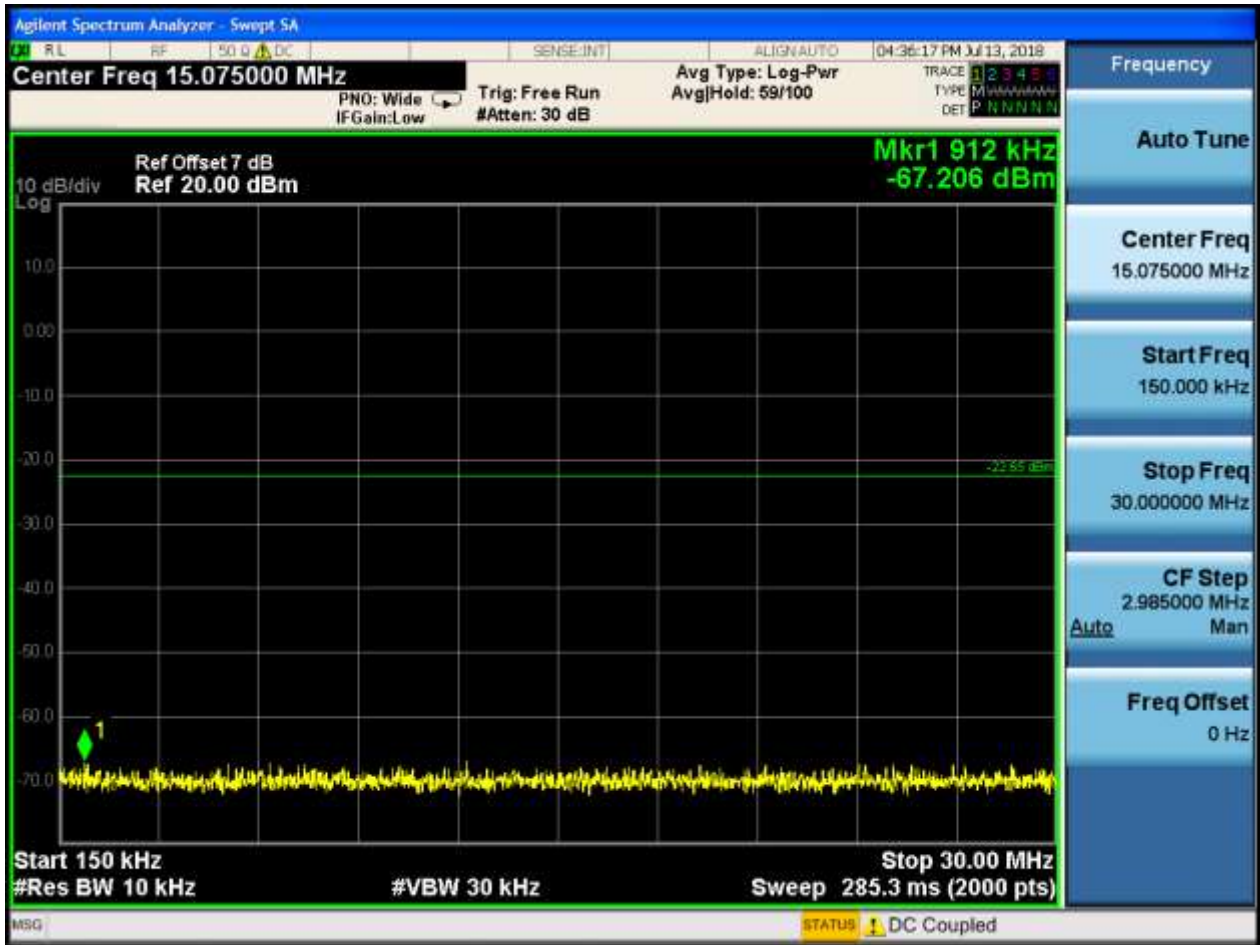
## 2.4 TM2\_2DH5\_Ch0

### 2.4.1 Pref



2.4.2 Puw

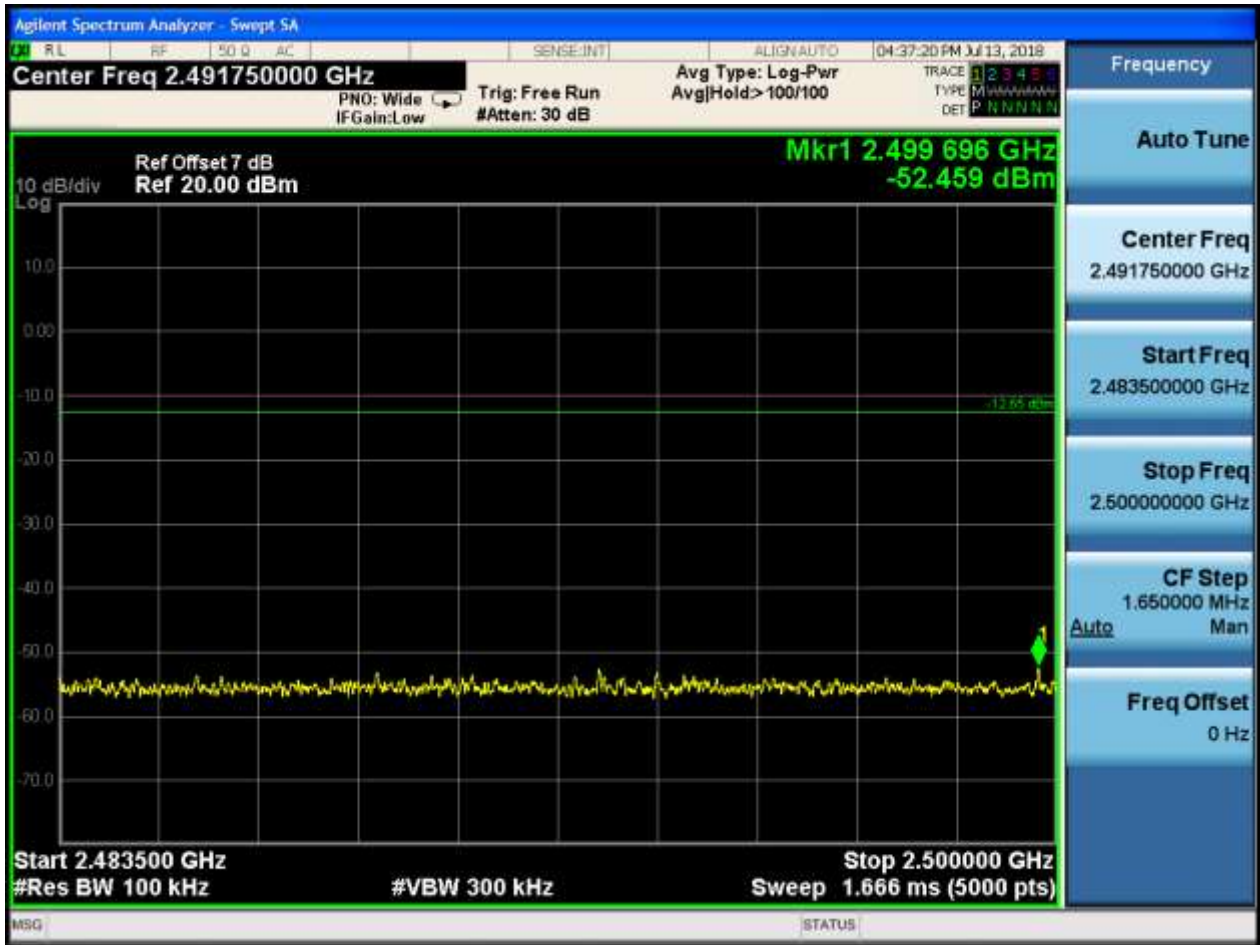












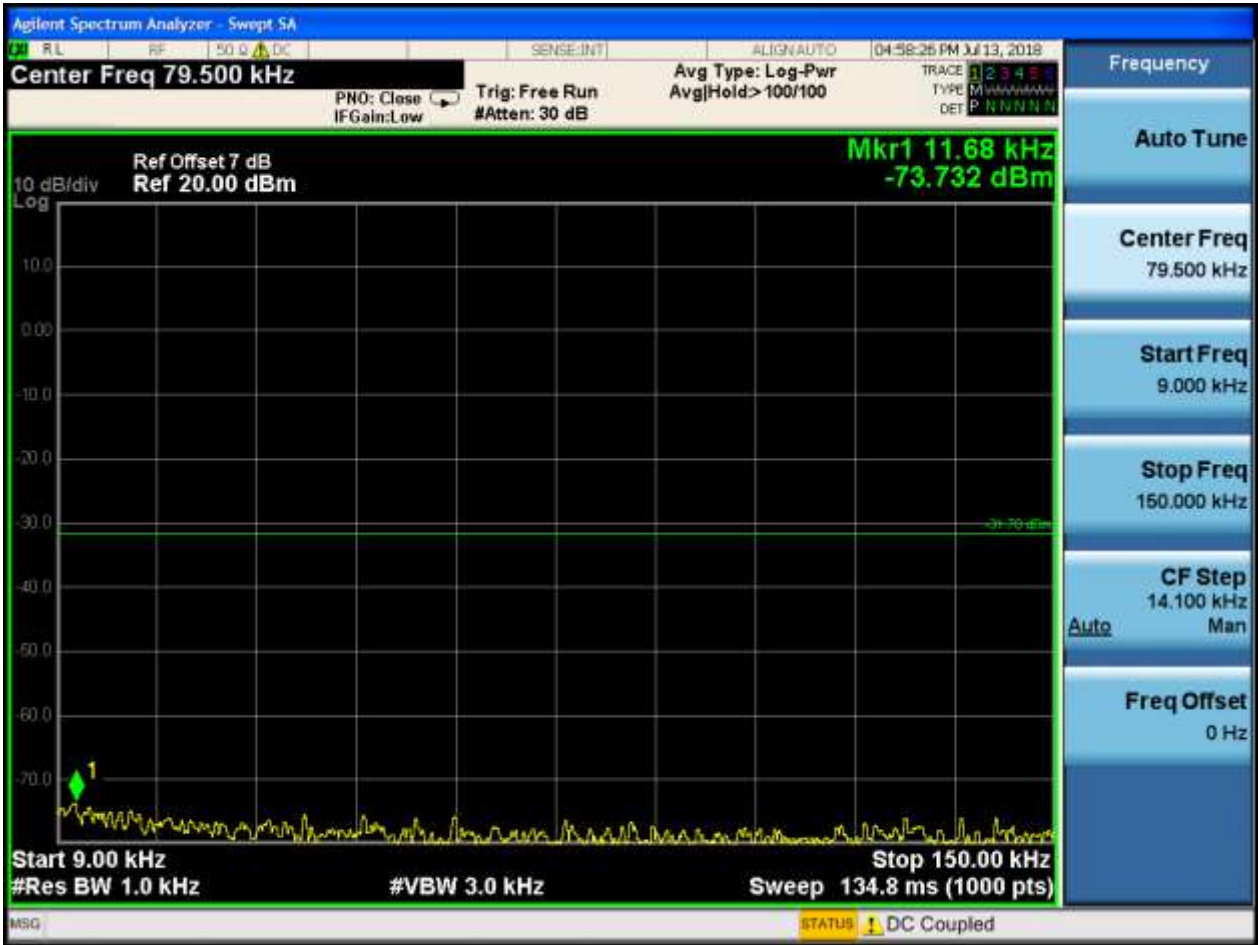


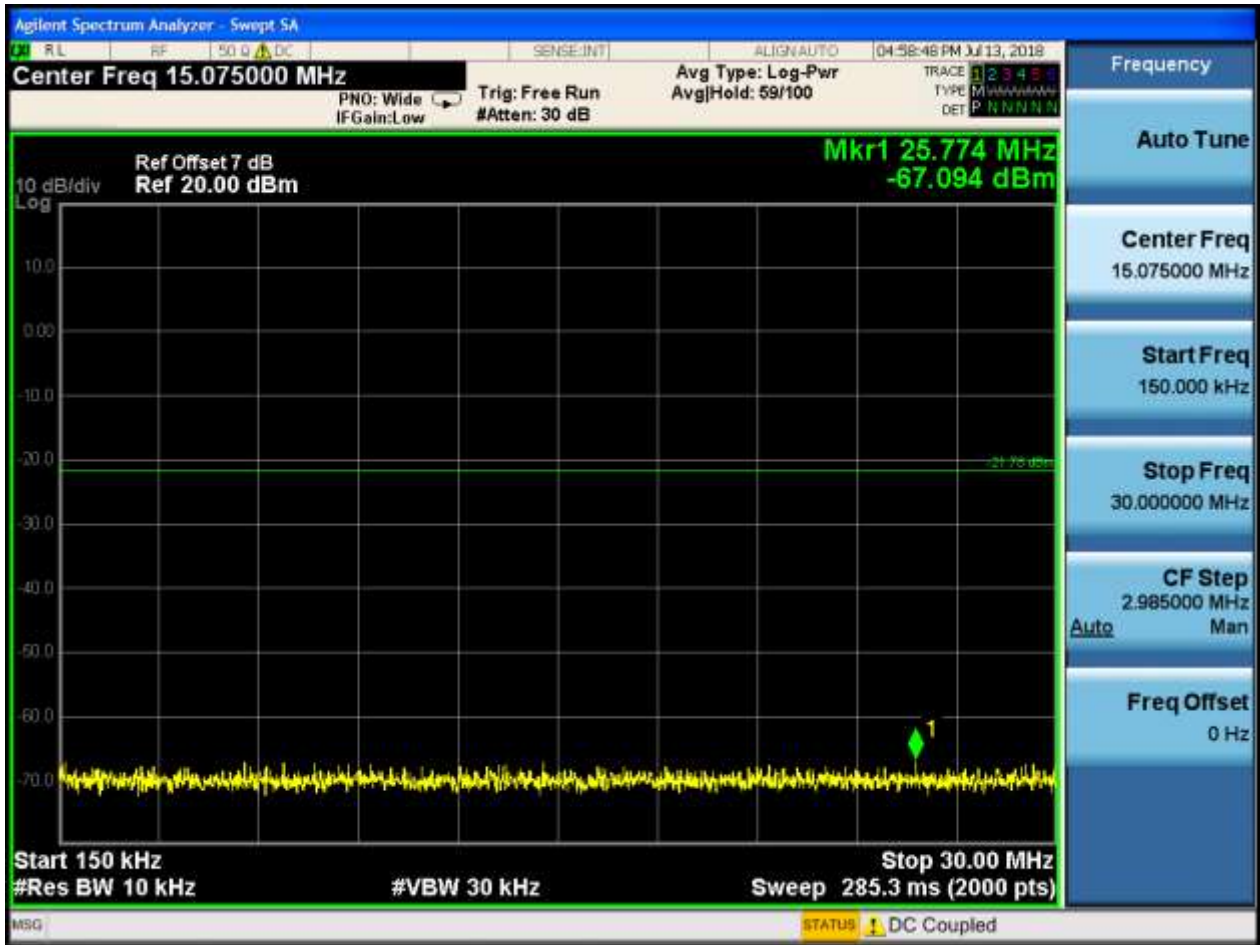




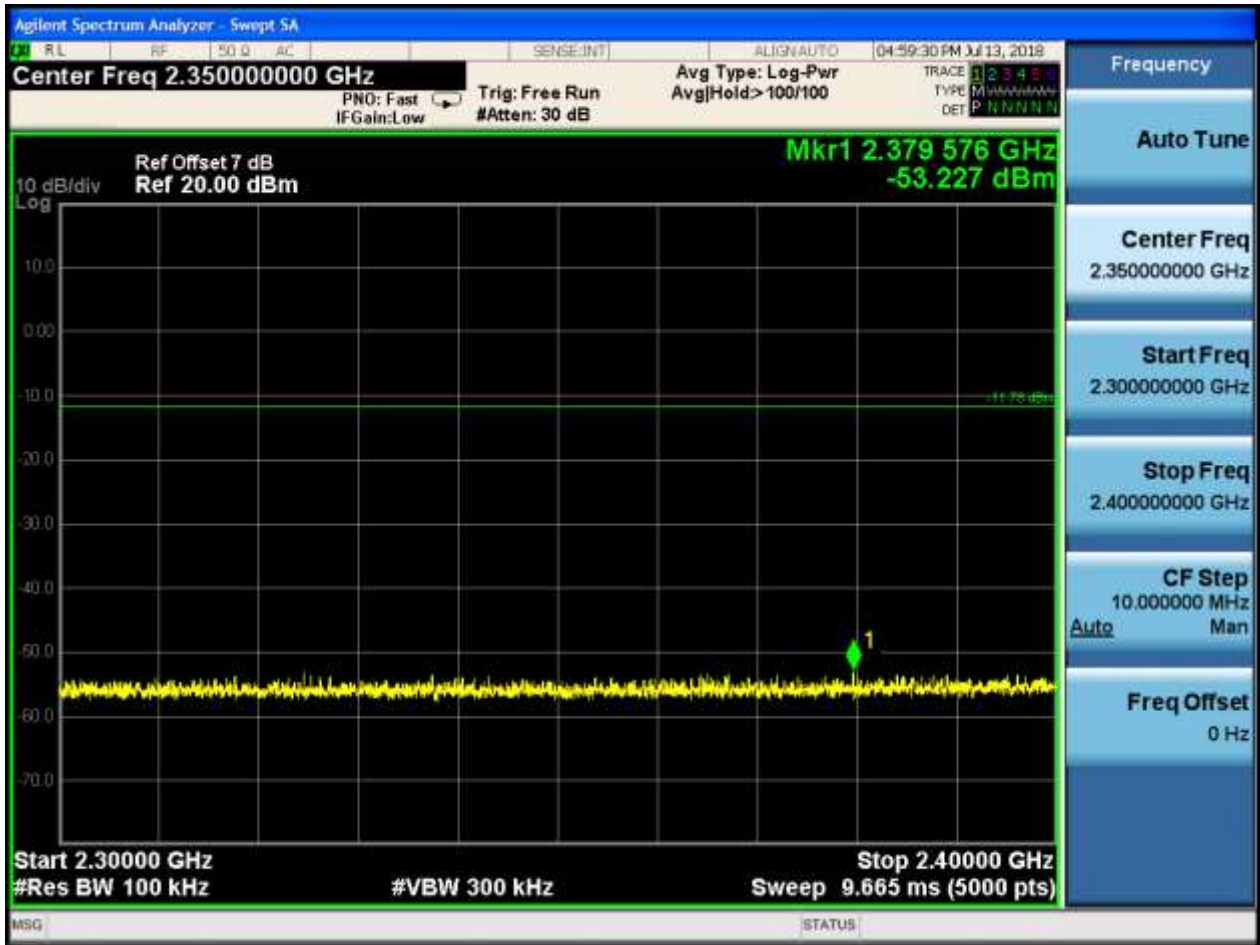


### 2.5.2 Puw

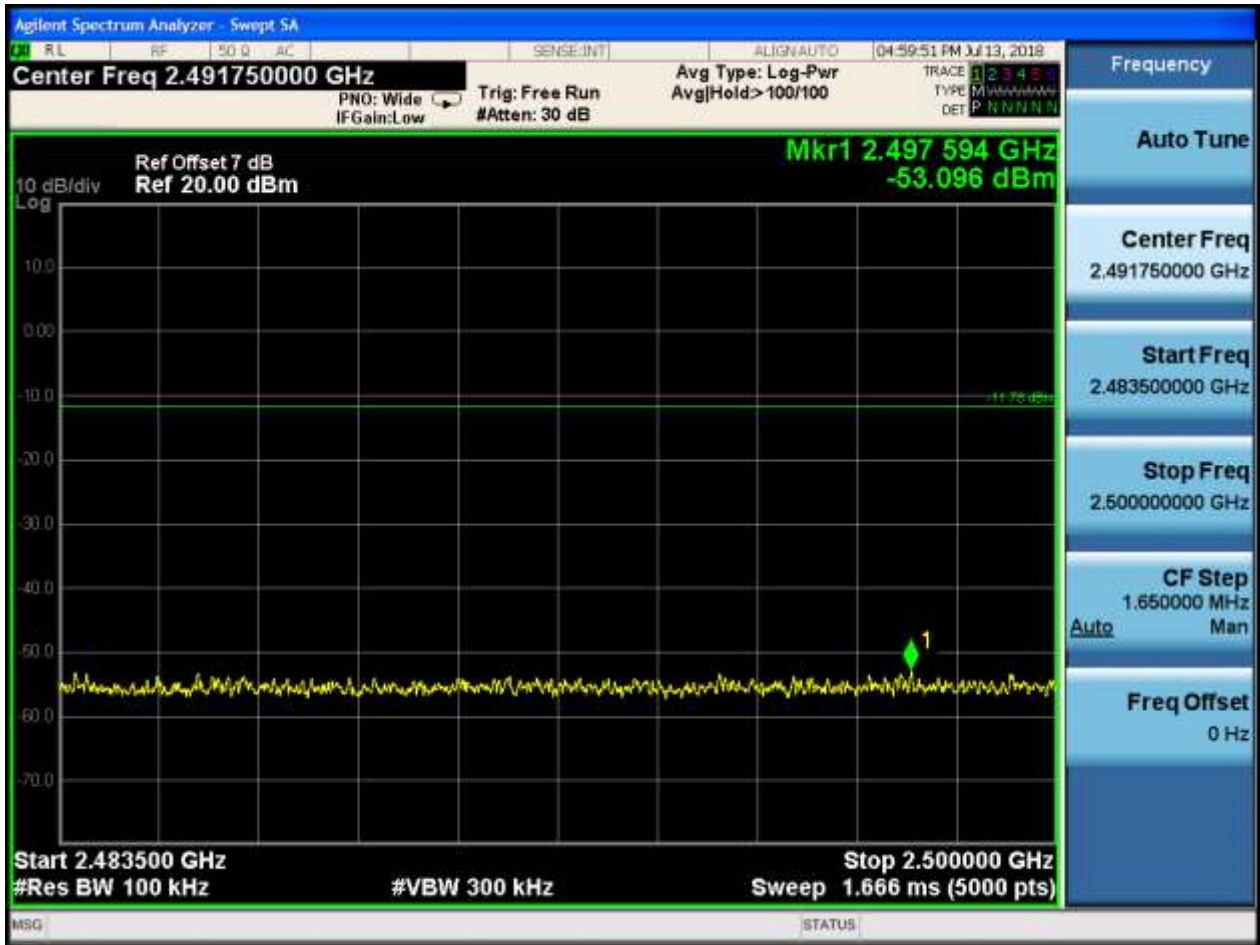
















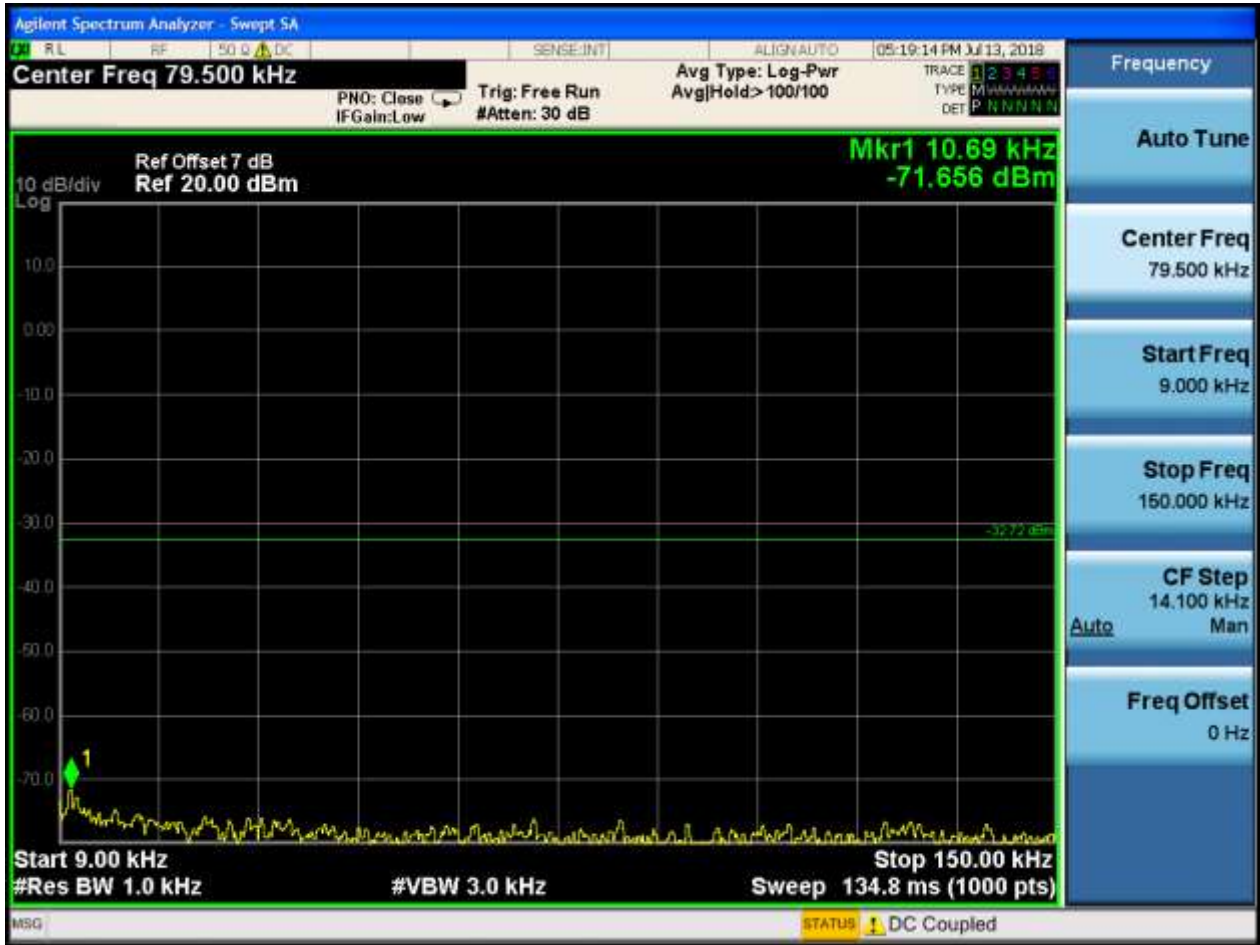


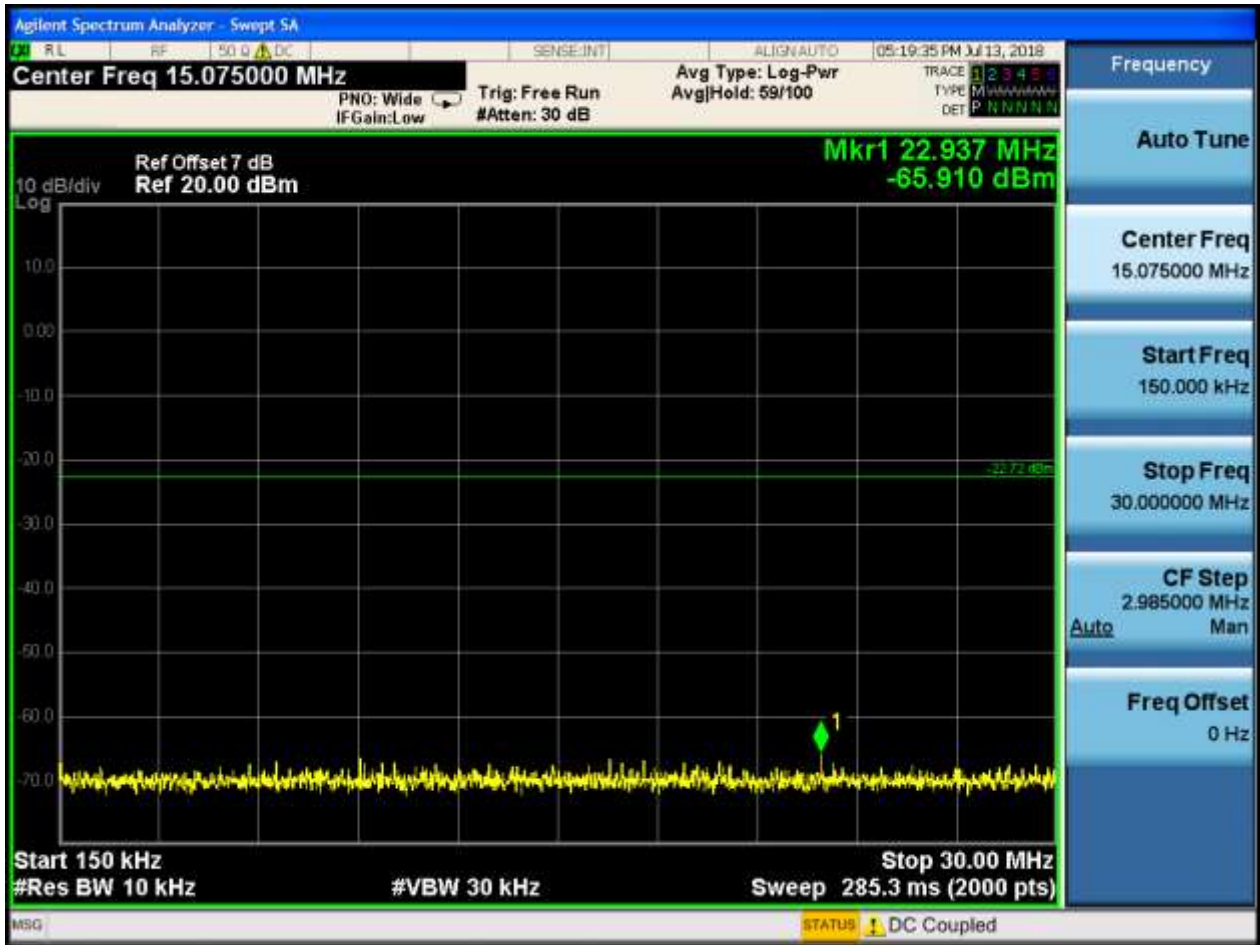
## 2.6 TM2\_2DH5\_Ch78

### 2.6.1 Pref

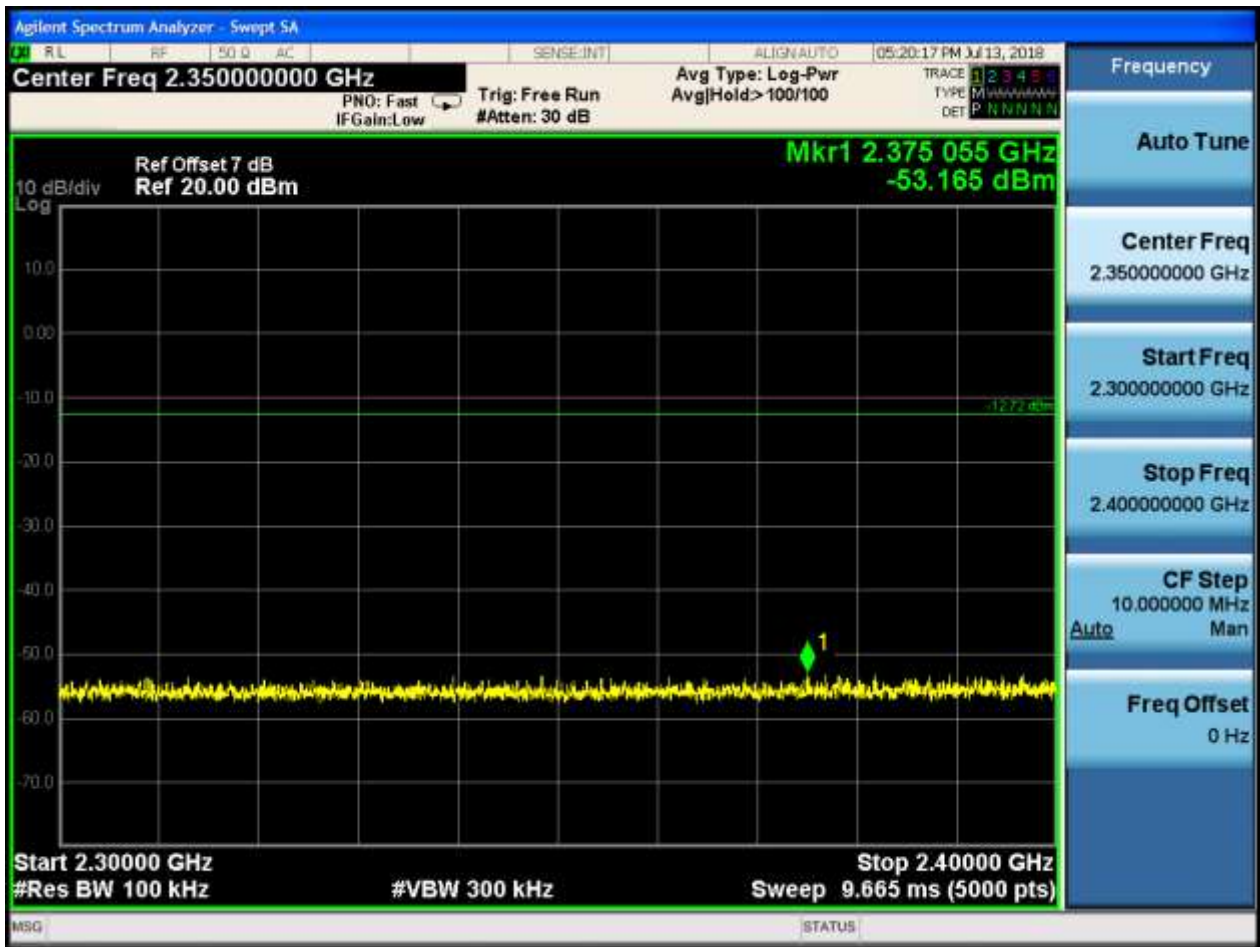


### 2.6.2 Puw

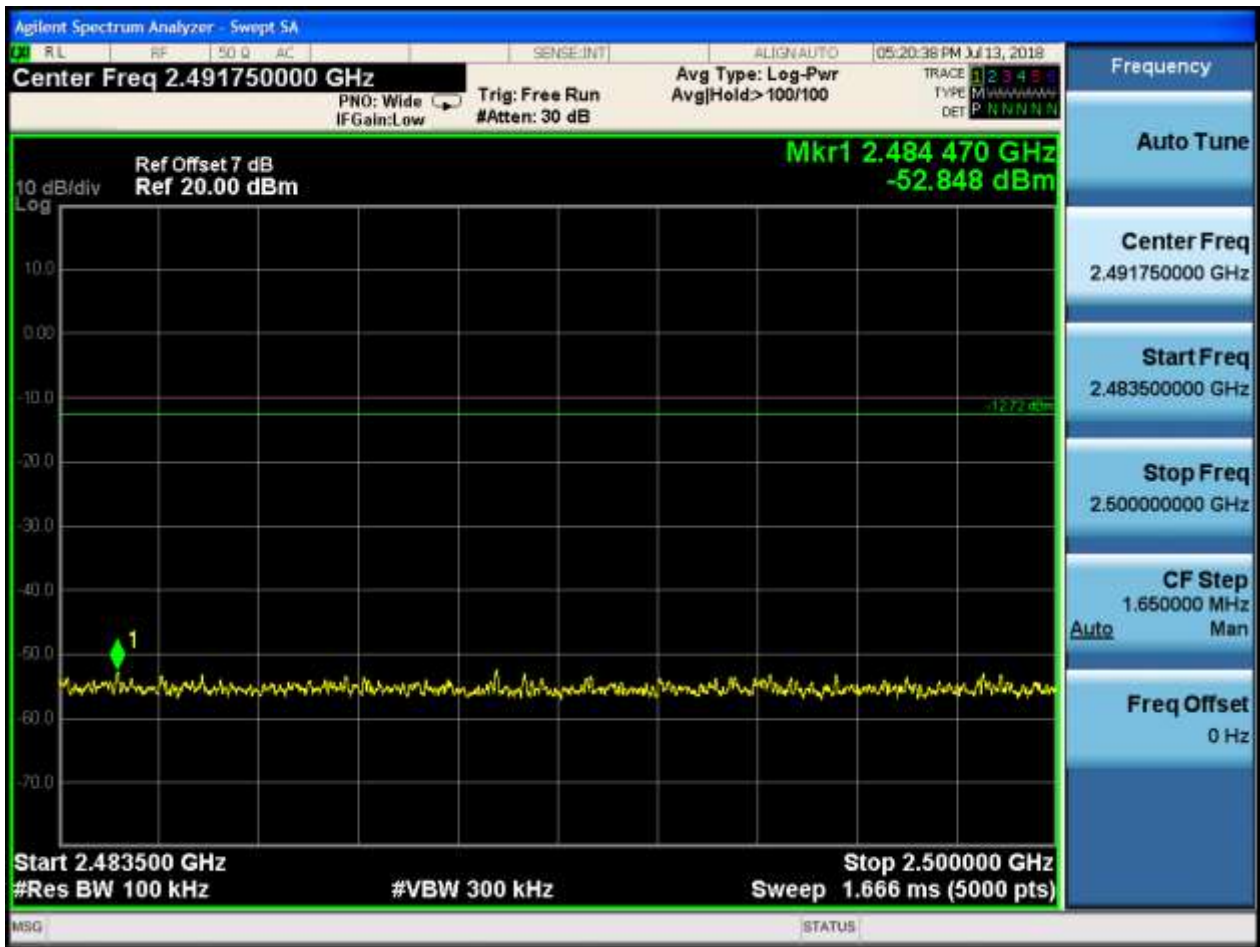


















## 2.7 TM3\_3DH5\_Ch0

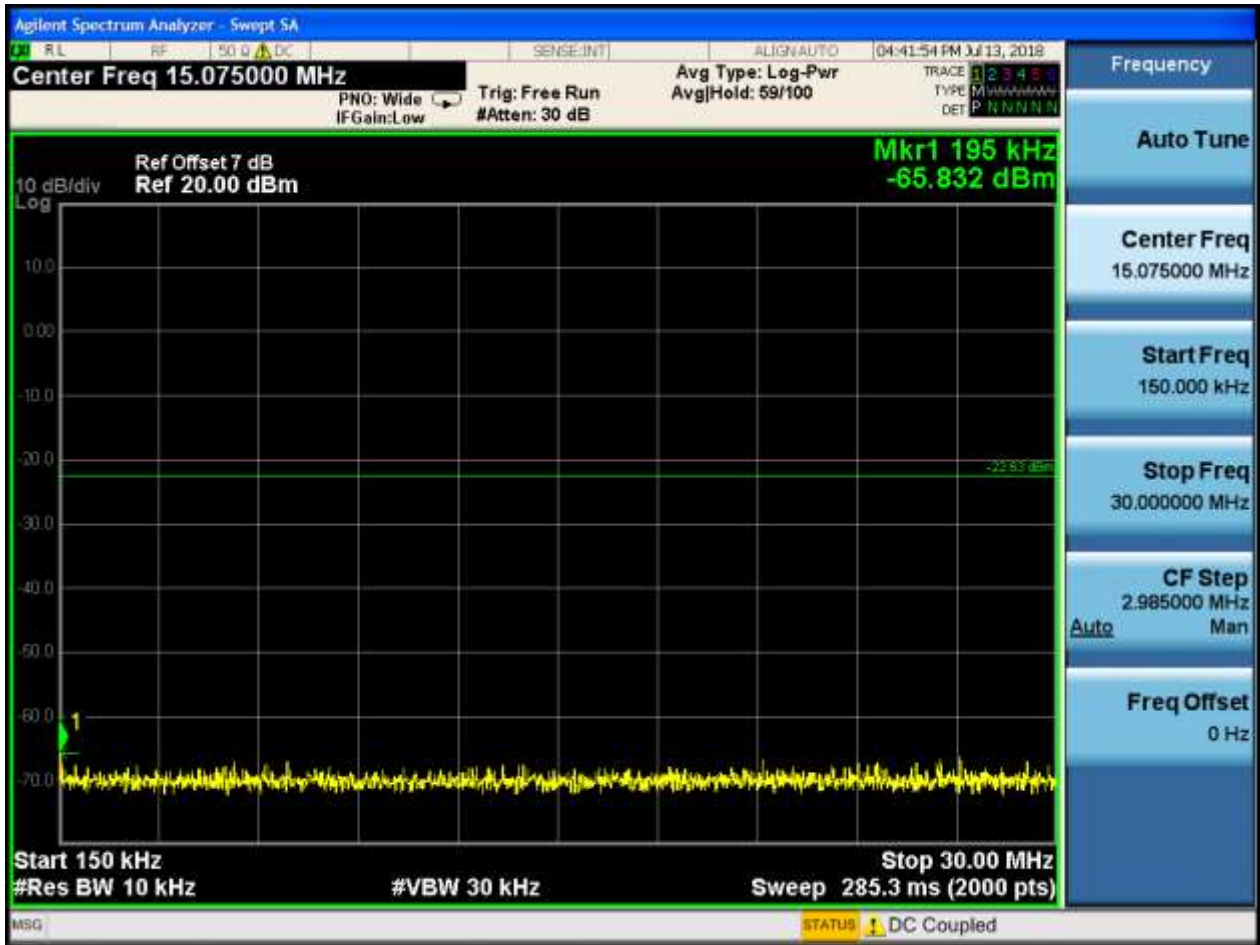
### 2.7.1 Pref





### 2.7.2 Puw

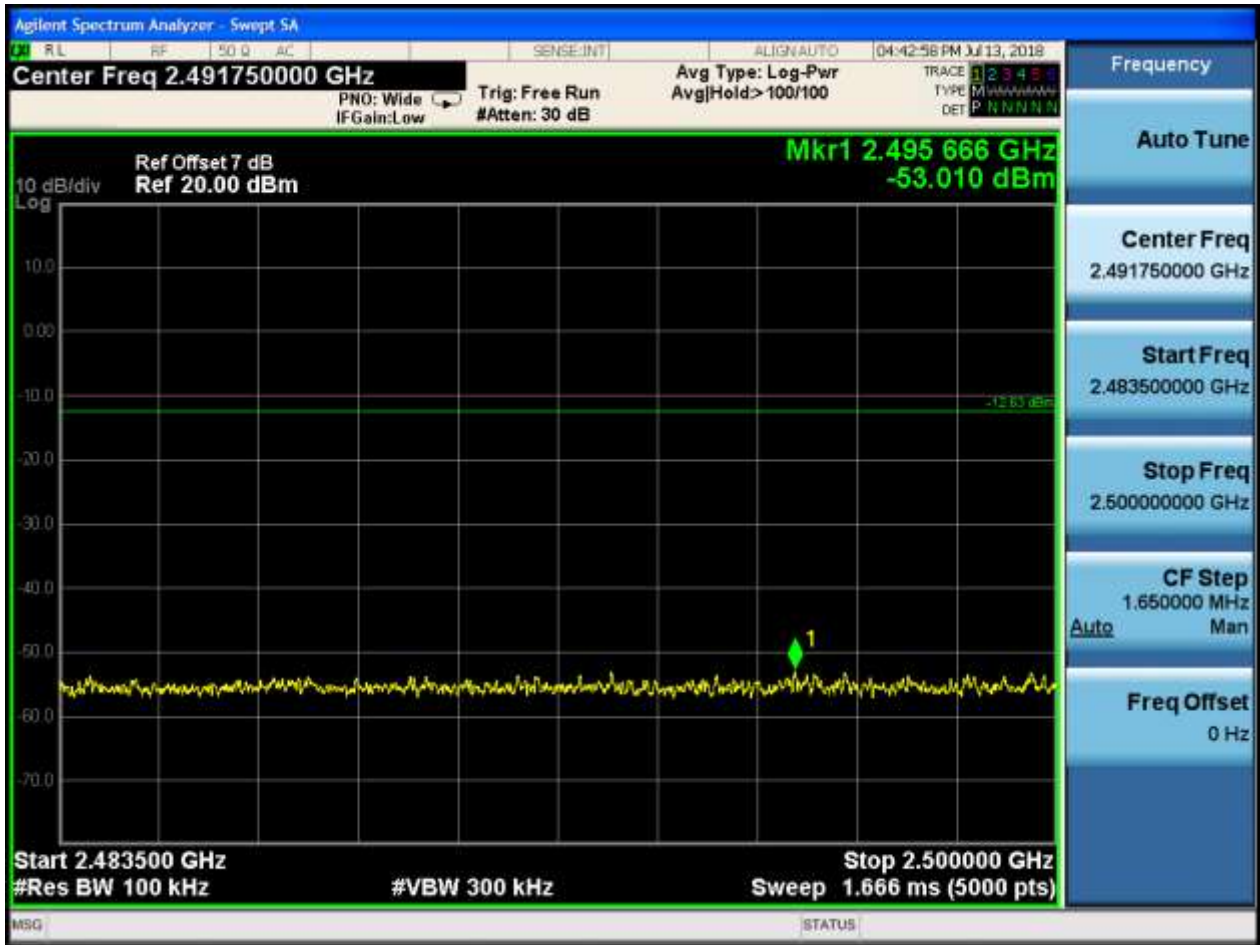
















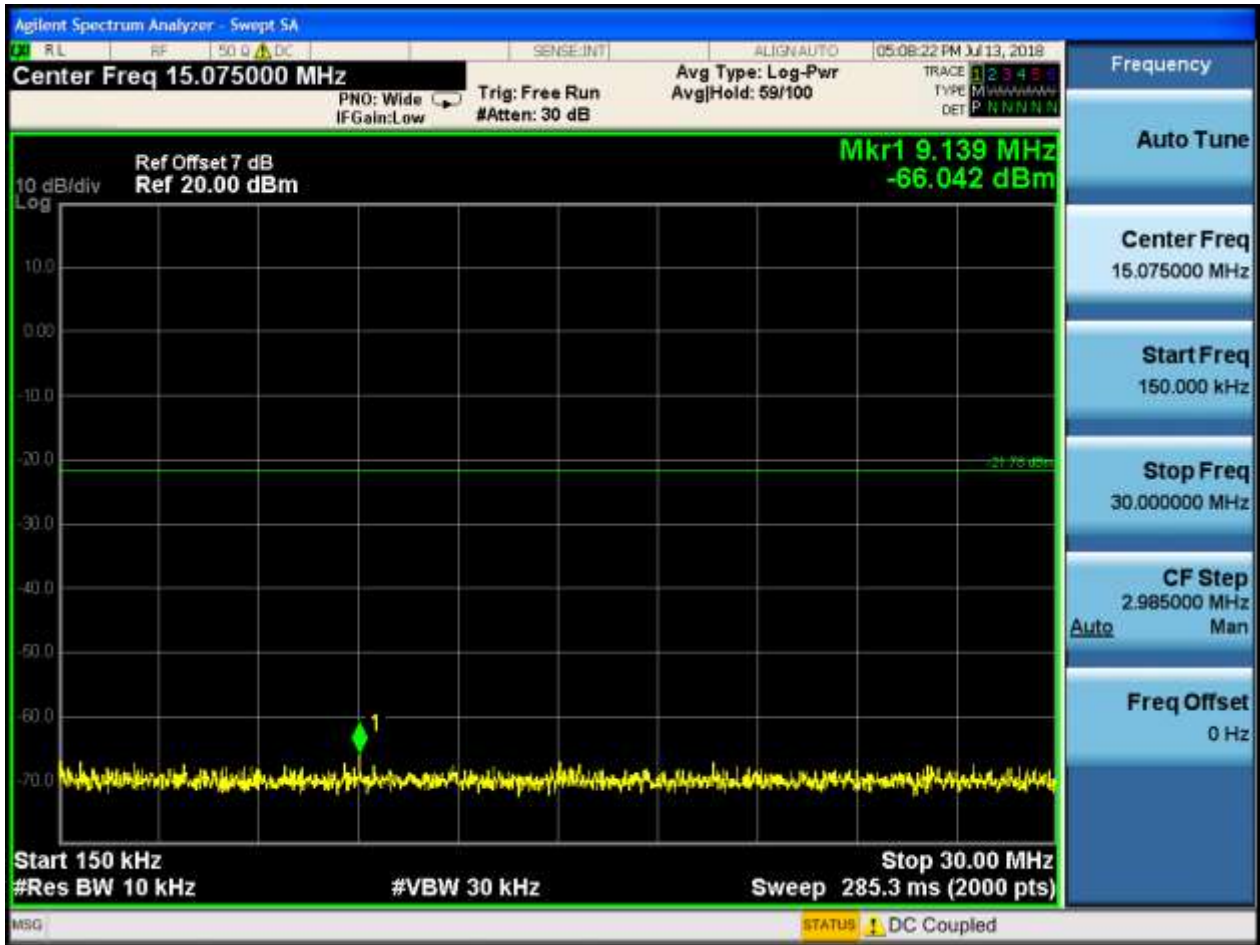
## 2.8 TM3\_3DH5\_Ch39

### 2.8.1 Pref

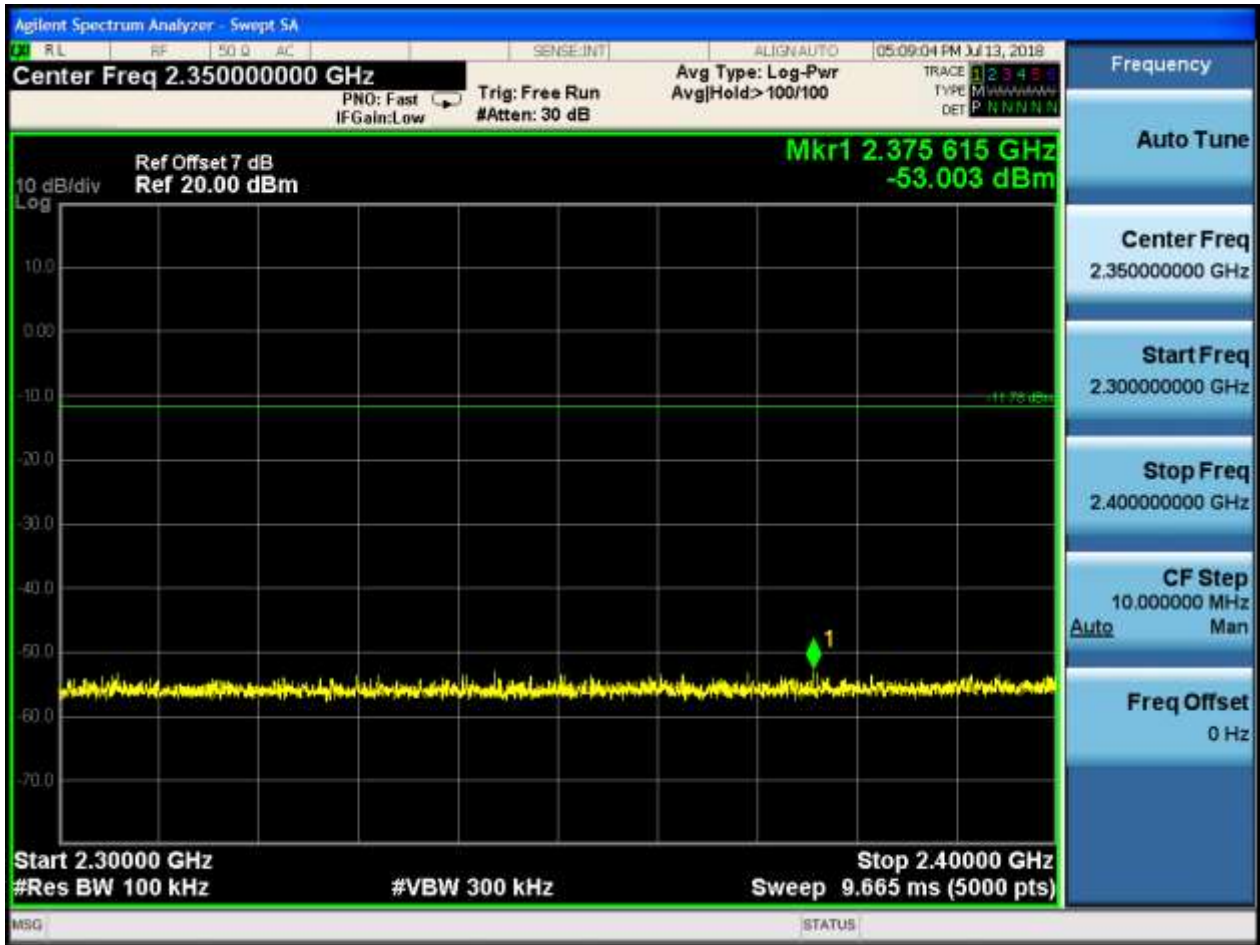


### 2.8.2 Puw

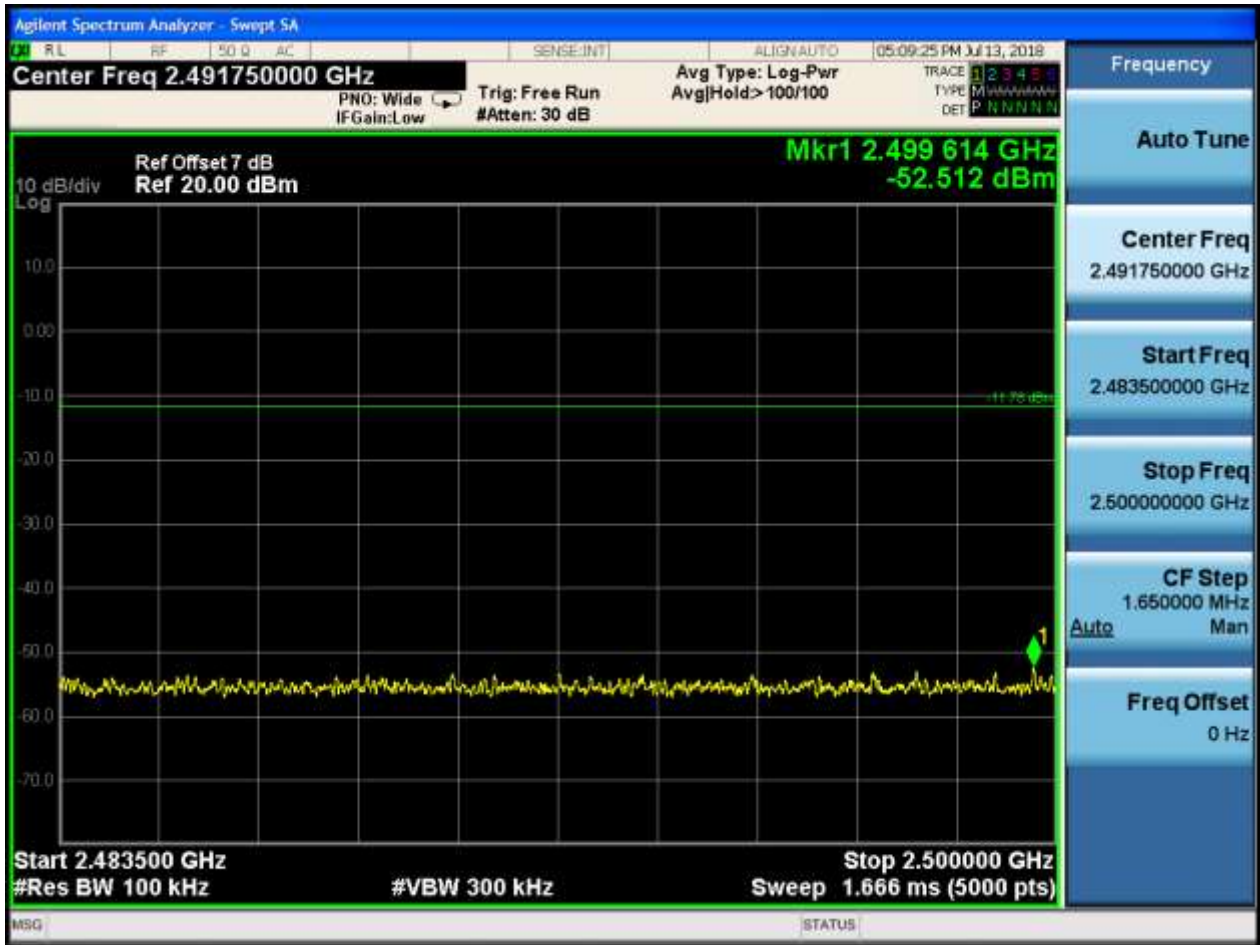


















## 2.9 TM3\_3DH5\_Ch78

### 2.9.1 Pref



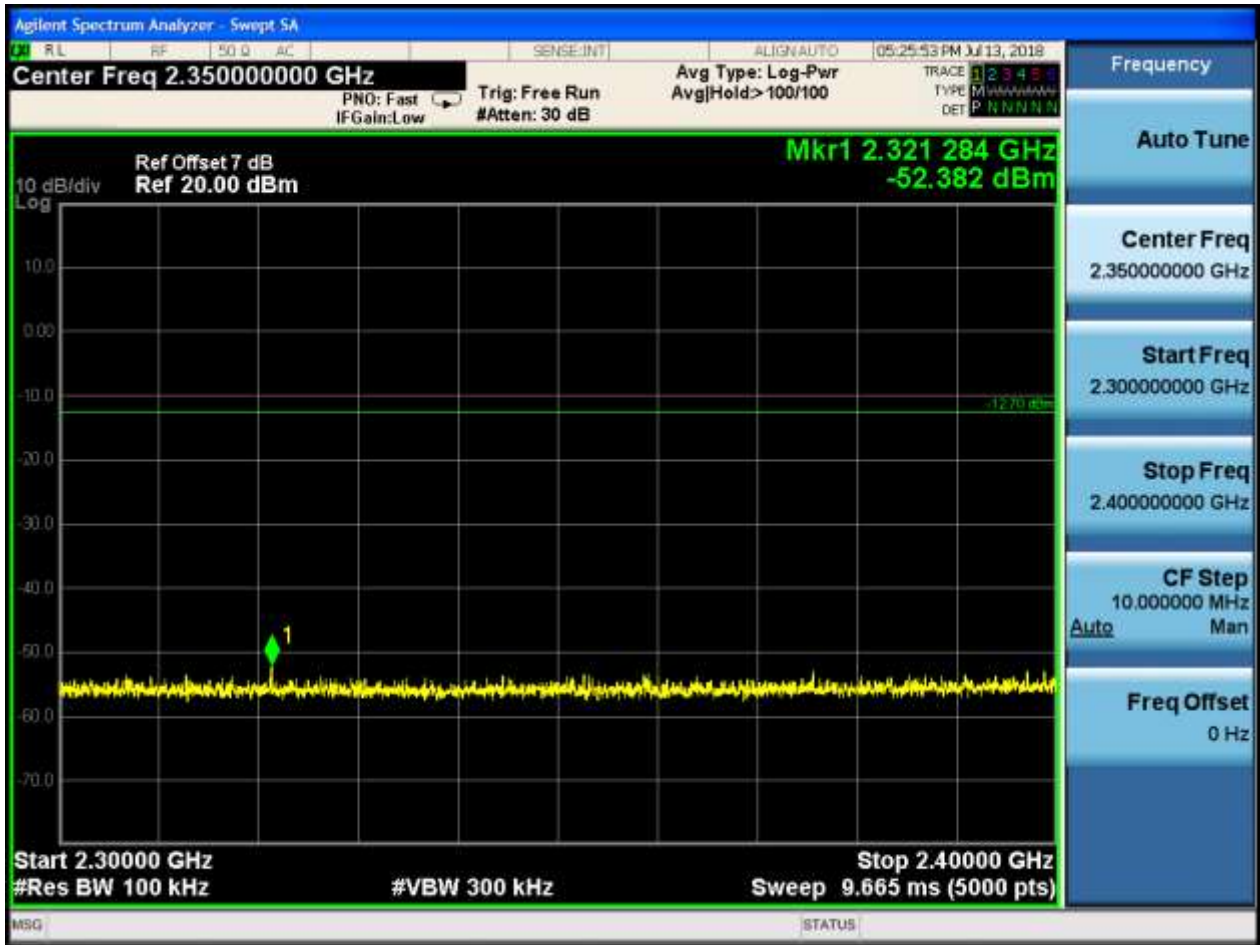


### 2.9.2 Puw

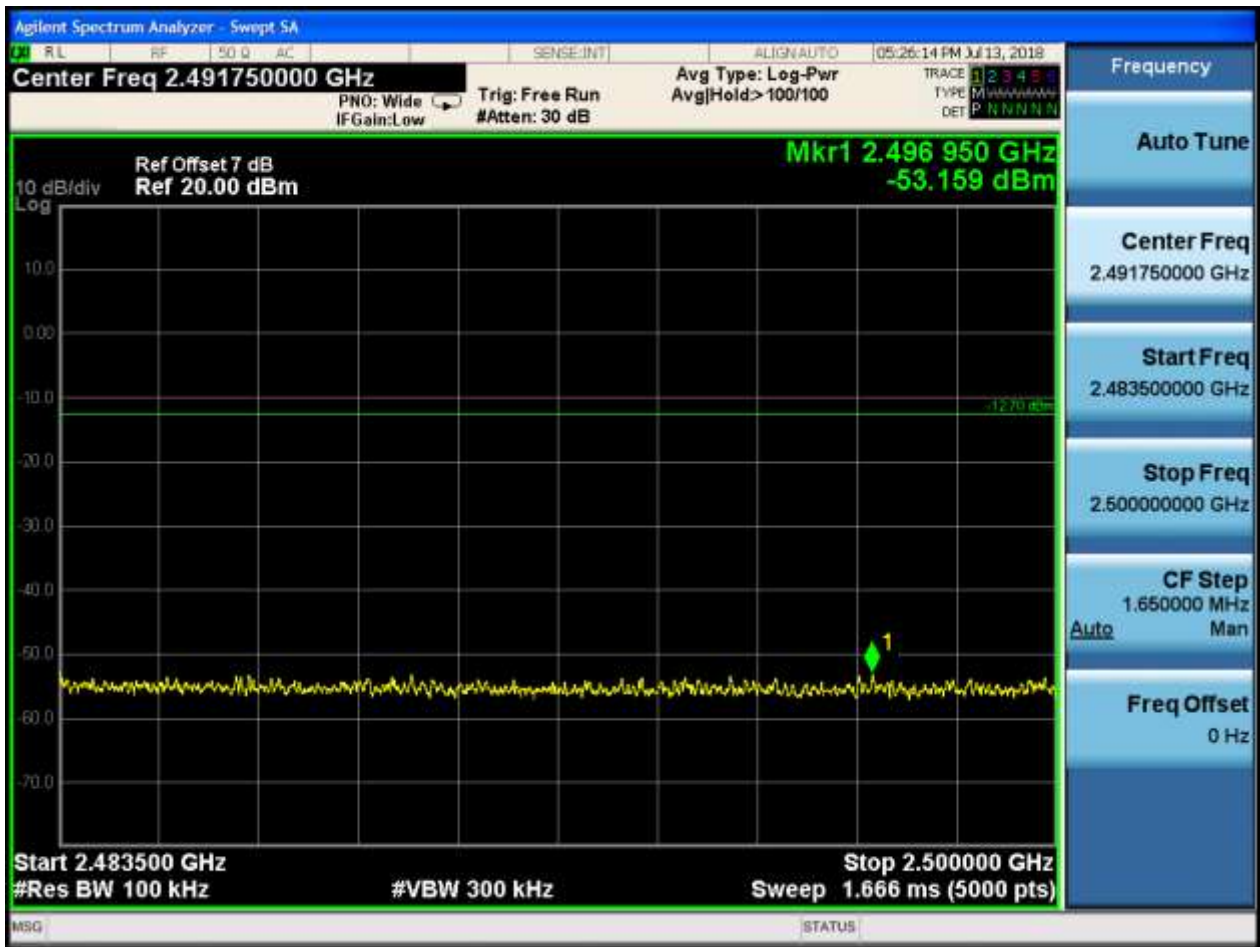


















# Appendix H: Radiated Emissions in the Restricted Bands



### 3 Result Table

The whole testing range is from “30 MHz to 26.5 GHz (10th harmonics)” is divided into 5 parts according to the test site settings, which are:

- (Part 1): Test range of “9 KHz to 30 MHz”,
- (Part 2): Test range of “30 GHz to 1 GHz”,
- (Part 3): Test range of “1 GHz to 3 GHz”.
- (Part 4): Test range of “3 GHz to 18 GHz”,
- (Part 5): Test range of “18 GHz to 26.5 GHz”.

In this Appendix, only the test results and plots under the worst case can be reported. In the result table, the “< Limit” denotes that “Not found obvious spikes or see marked spikes on plots and listed emissions records”.

Test Range	EUT Conf.	Emissions	Verdict
30 MHz to 1 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
1 GHz to 3 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass
	TM1_DH5_Ch78 (Worst Conf.)	< Limit	Pass
3 GHz to 18 GHz	TM1_DH5_Ch0 (Worse Conf.)	< Limit	Pass
18 GHz to 26.5 GHz	TM1_DH5_Ch0 (Worst Conf.)	< Limit	Pass

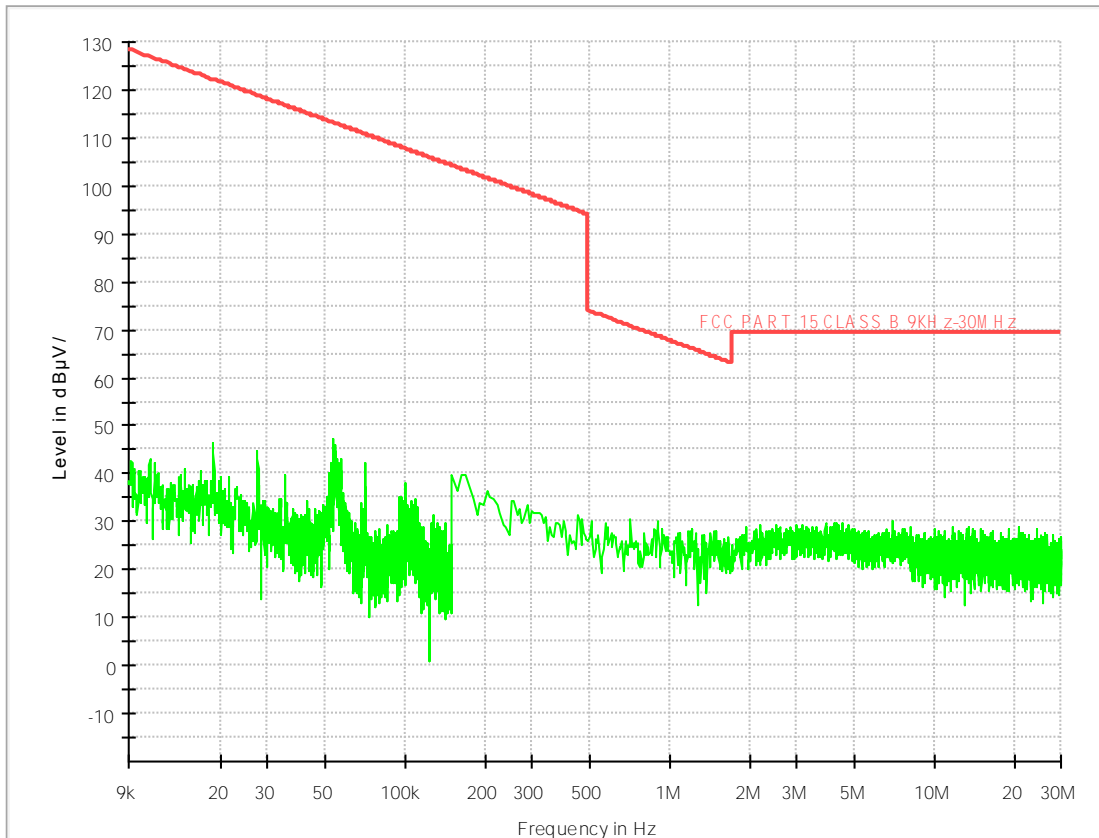
Note: We tested all modes, but the data presented below is the worst case.



#### 4 Result Plot

##### Part 1: Testing Range of “9 kHz to 30MHz”

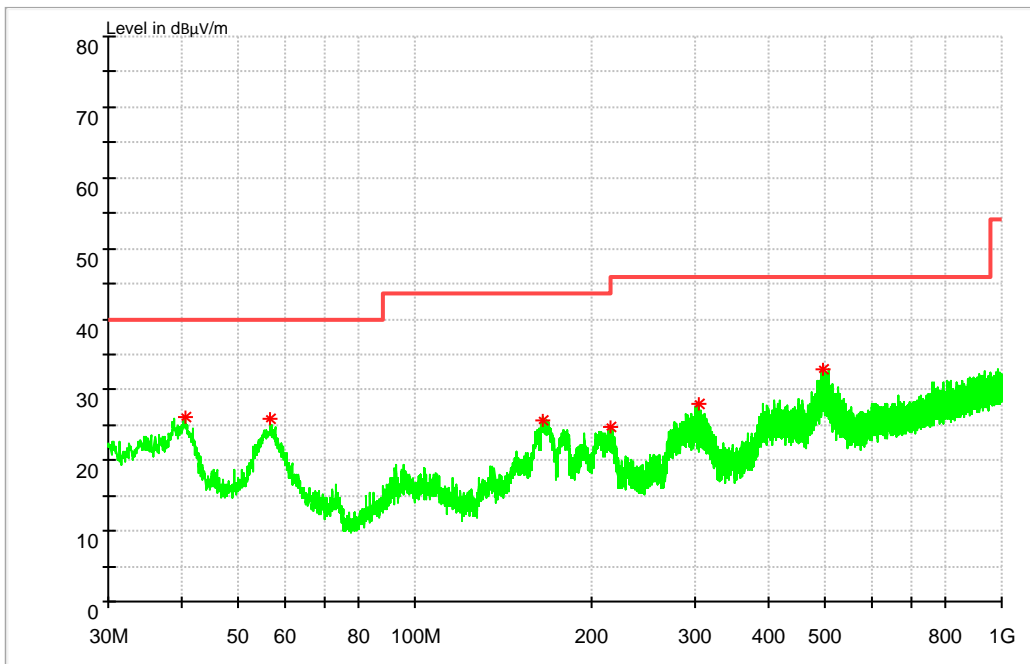
Note 1: The test results and plot for testing range of “9 KHz to 30 MHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.



**Part 2: Testing Range of “30 MHz to 1 GHz”**

Note 1: The test results and plot for testing range of “30 MHz to 1 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.

Note 2: The emissions in this range are mainly from the Platform Device (Notepad PC and its ancillary components).



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Trans d. (dB)
40.476000	26.14	40.00	13.86	100.0	V	338.0	14.4
56.675000	25.93	40.00	14.07	100.0	V	291.0	14.0
165.315000	25.73	43.50	17.77	100.0	V	257.0	10.6
214.688000	24.64	43.50	18.86	100.0	V	162.0	13.0
305.577000	27.90	46.00	18.10	100.0	H	71.0	15.6
496.230500	32.83	46.00	13.17	100.0	H	7.0	19.6

Note:

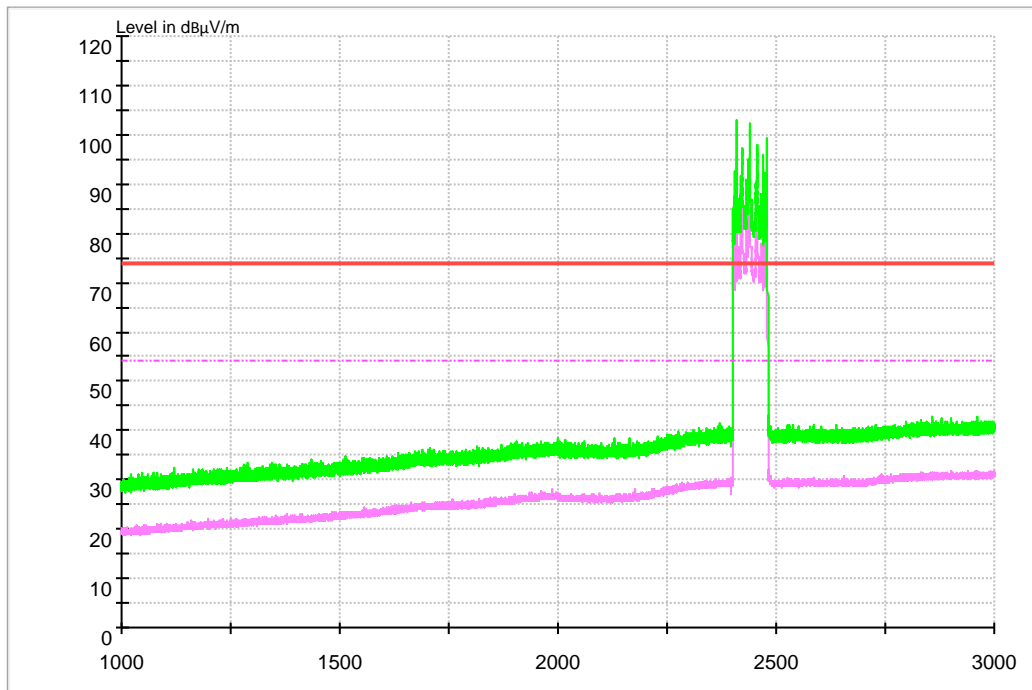
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

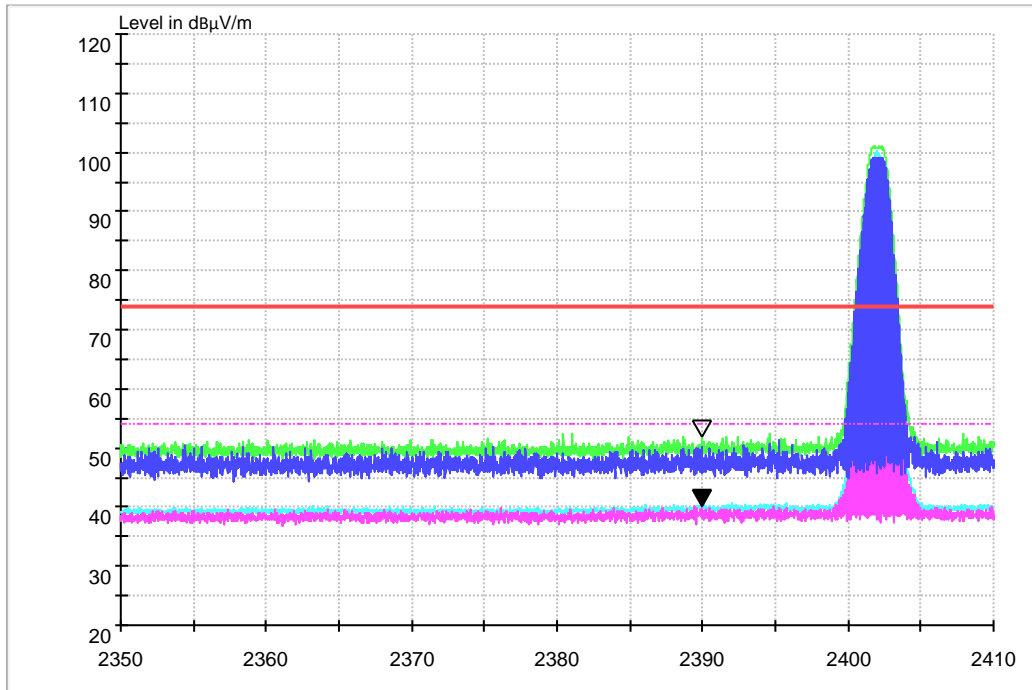
2, Margin=Limit - Level

### Part 3: Testing Range of “1GHz to 3GHz”

- Note 1: The testing range of “1 GHz to 3 GHz” is for checking radiated emissions located in restricted bands near the EUT operating bands.
- Note 2: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).
- Note 3: The peak spike exceeds the limit line is EUT’s operating frequency.



**Channel 0**



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2389.914	40.37	54.00	13.63	150.0	H	200.0	8.0

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2389.968	52.25	74.00	21.75	150.0	H	200.0	8.0

Note:

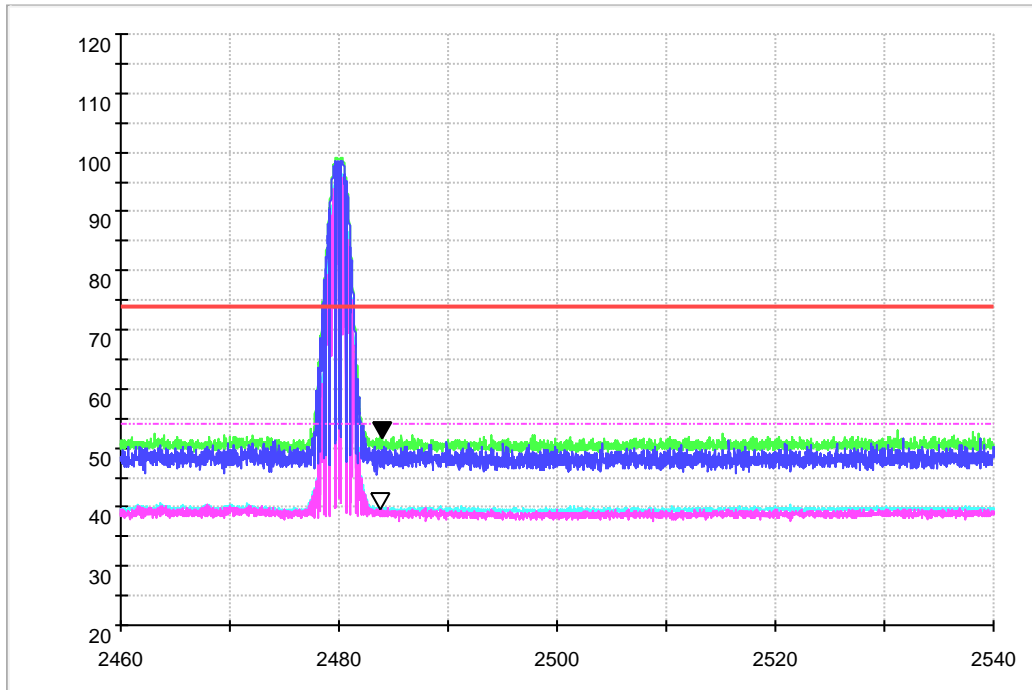
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level



**Channel 78**



MEASUREMENT RESULT: AV Detector

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h	Transd. (dB)
2483.836	39.94	54.00	14.06	150.0	H	200.0	8.5

MEASUREMENT RESULT: PK Detector

Frequency (MHz)	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth h (deg)	Transd. (dB)
2483.924	51.84	74.00	22.16	150.0	H	200.0	8.5

Note:

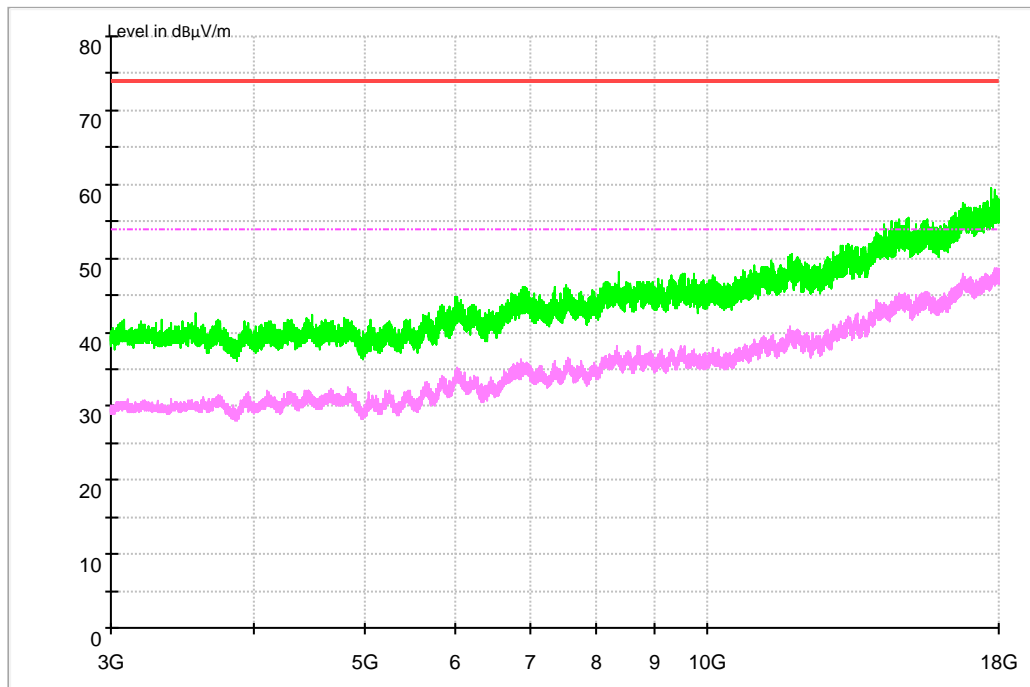
1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit - Level

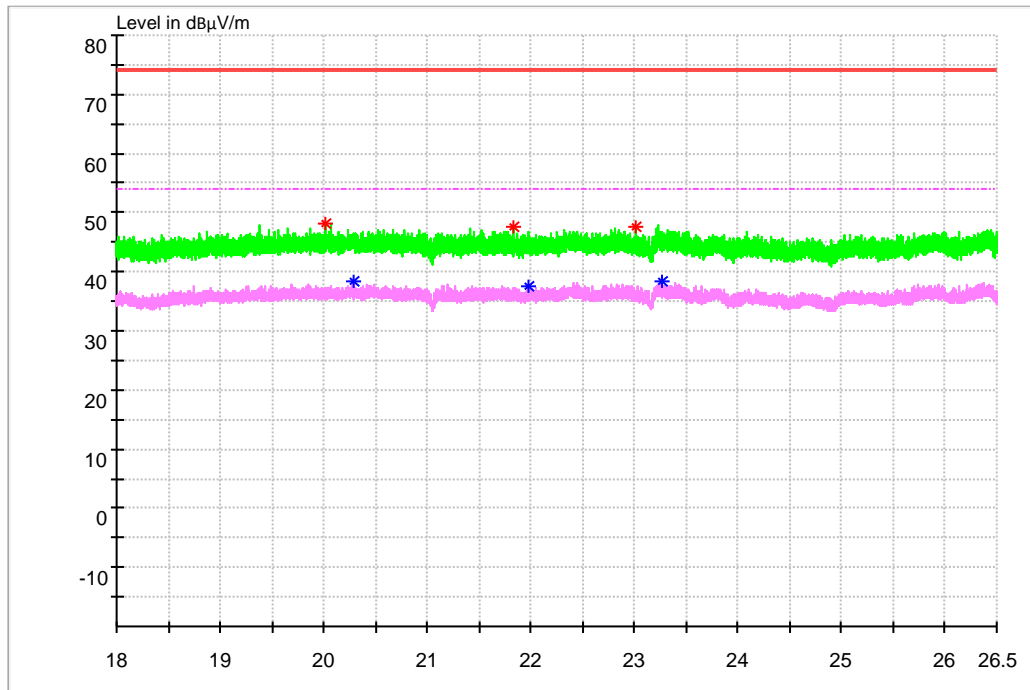
#### Part 4: Testing Range of “3 GHz to 18 GHz”

- Note 1: The test results and plot for testing range of “3 GHz to 18 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “3 GHz to 18 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).



## Part 5: Testing Range of “18 GHz to 26.5 GHz”

- Note 1: The test results and plot for testing range of “18 GHz to 26.5 GHz” showed as below is the WORST case for all Test Modes and Channels. This range will not be presented for each Test Mode and each Channel.
- Note 2: The testing range of “18 GHz to 26.5 GHz” is for checking radiated emissions located in restricted bands faraway from the EUT operating bands.
- Note 3: Two limits are required in the testing range above 1 GHz, that is Peak limit (74 dB $\mu$ V/m) and Average Limit (54 dB $\mu$ V/m).





# Appendix I: AC Power Line Conducted Emissions



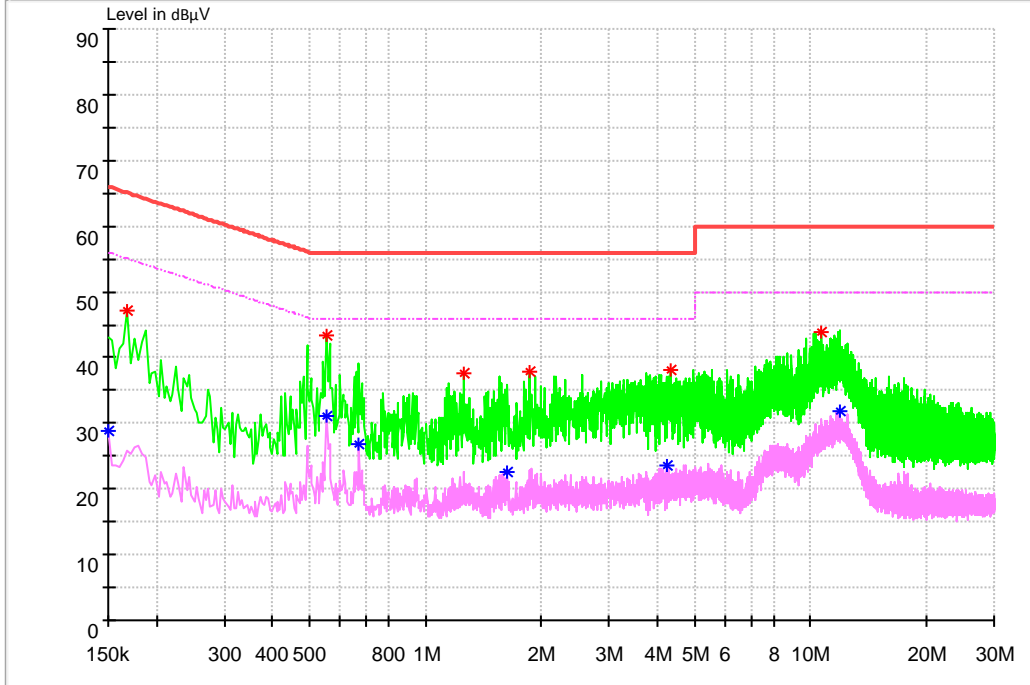
## 1 Result Table

In this Appendix, only the test results and plots under the worst case can be reported.

EUT Conf.	Maximum Emissions	Verdict
TM1_DH5_Ch39	Not found obvious spikes or see marked spikes on plots and listed emissions records.	Pass

2 Result Plot

# Channel 39



MEASUREMENT RESULT: QP Detector

Frequency (MHz)	Level (dB µ V)	Limit (dB µ V)	Transd. (dB)	Margin (dB)	Line	PE
0.168656	47.24	65.03	9.7	17.79	L1	FLO
0.552975	43.47	56.00	9.7	12.53	N	FLO
1.254450	37.50	56.00	9.7	18.50	N	FLO
1.870106	37.88	56.00	9.7	18.12	N	FLO
4.340194	38.05	56.00	9.8	17.95	L1	FLO
10.716900	43.83	60.00	10.0	16.17	N	FLO

MEASUREMENT RESULT: AV Detector



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Frequency (MHz)	Level (dB $\mu$ V)	Limit (dB $\mu$ V)	Transd. (dB)	Margin (dB)	Line	PE
0.150000	28.72	56.00	9.7	27.28	N	FLO
0.552975	30.98	46.00	9.7	15.02	N	FLO
0.672375	26.79	46.00	9.7	19.21	N	FLO
1.635038	22.66	46.00	9.7	23.34	N	FLO
4.213331	23.53	46.00	9.8	22.47	L1	FLO
11.981794	31.78	50.00	10.0	18.22	N	FLO

Note:

1, Level =Reading level by receiver + Transd (Antenna factor + cable loss – preamplifier gain)

The reading level is calculated by software which is not shown in the sheet.

2, Margin=Limit – Level

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END