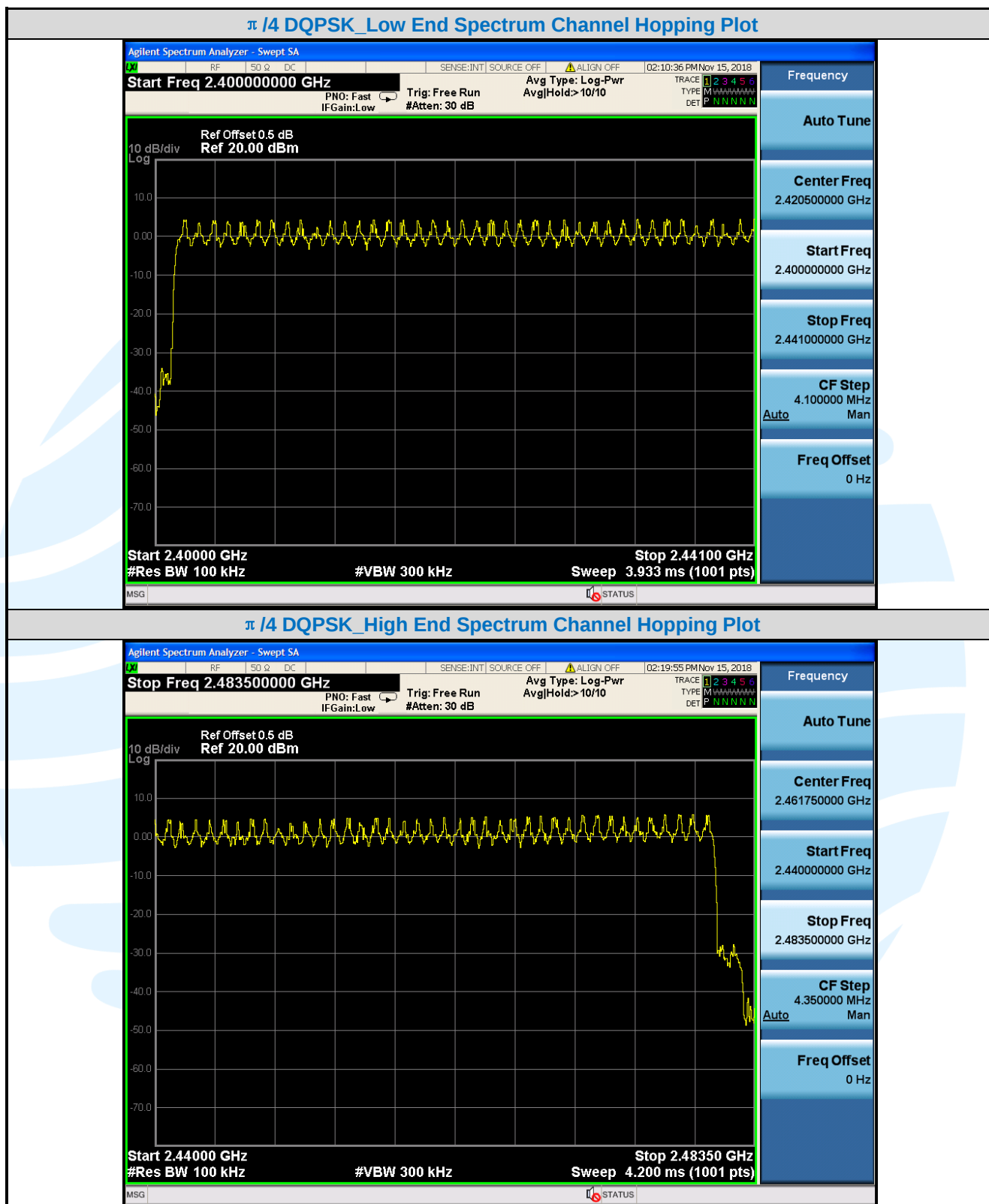
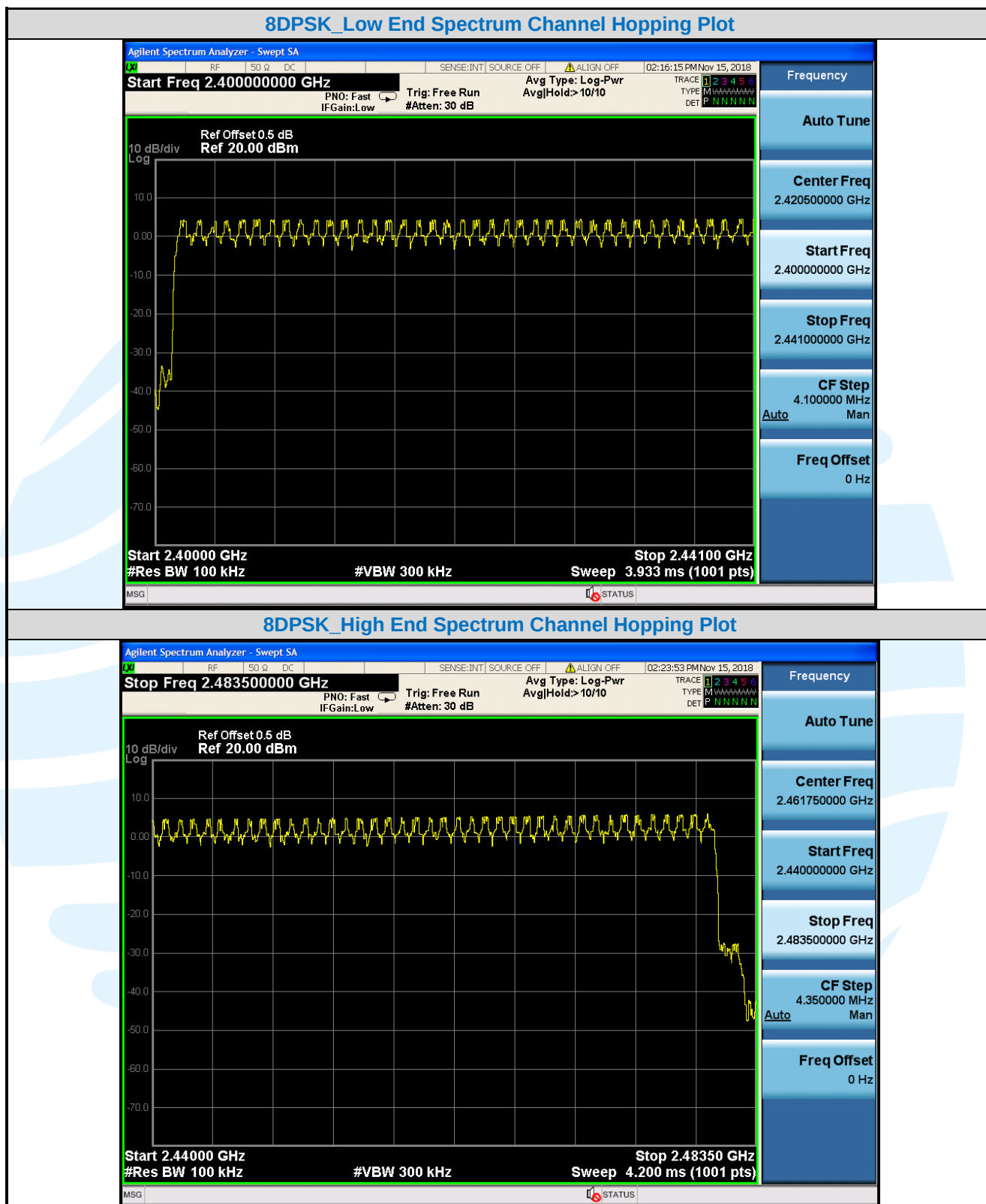
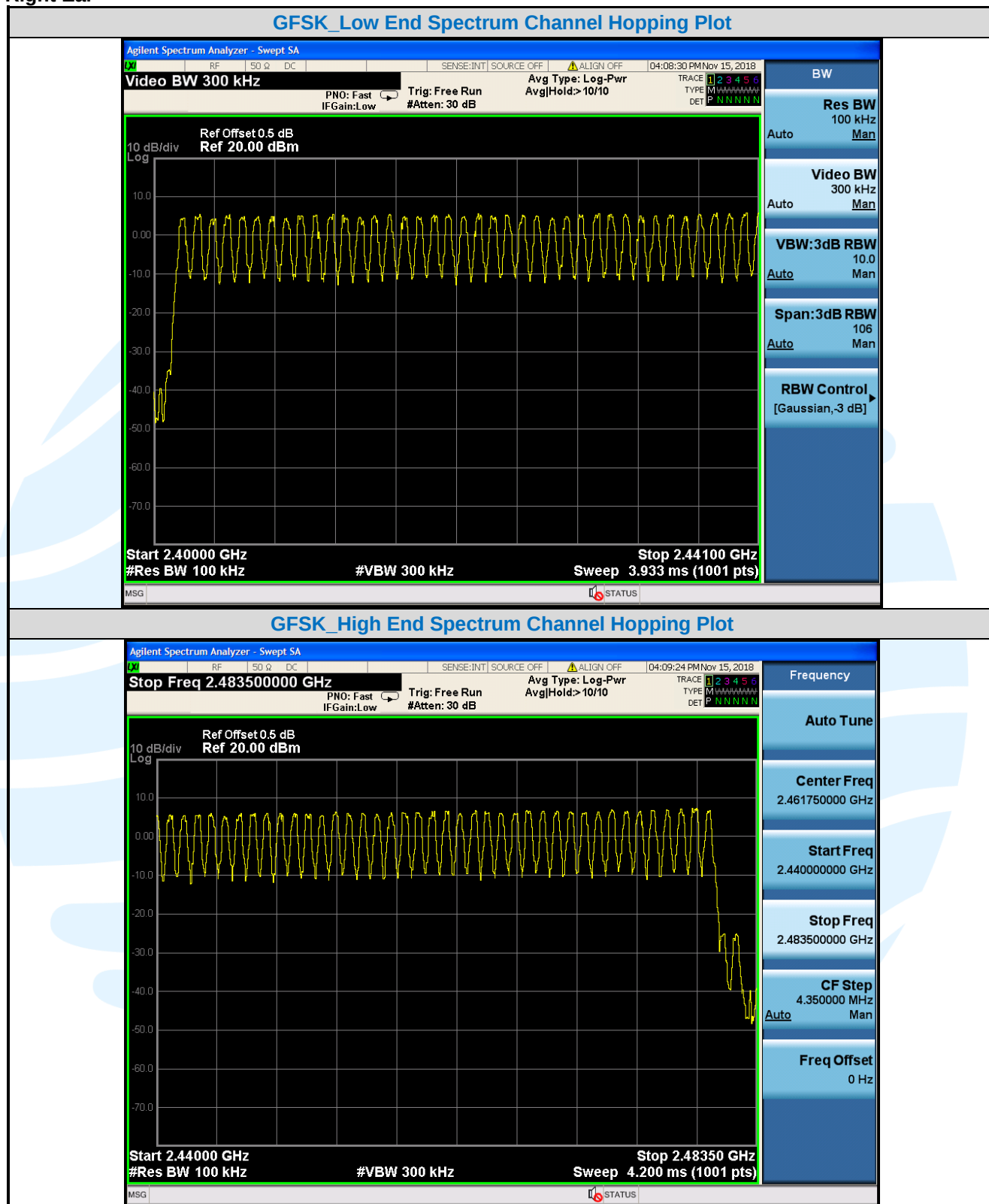






Right Ear



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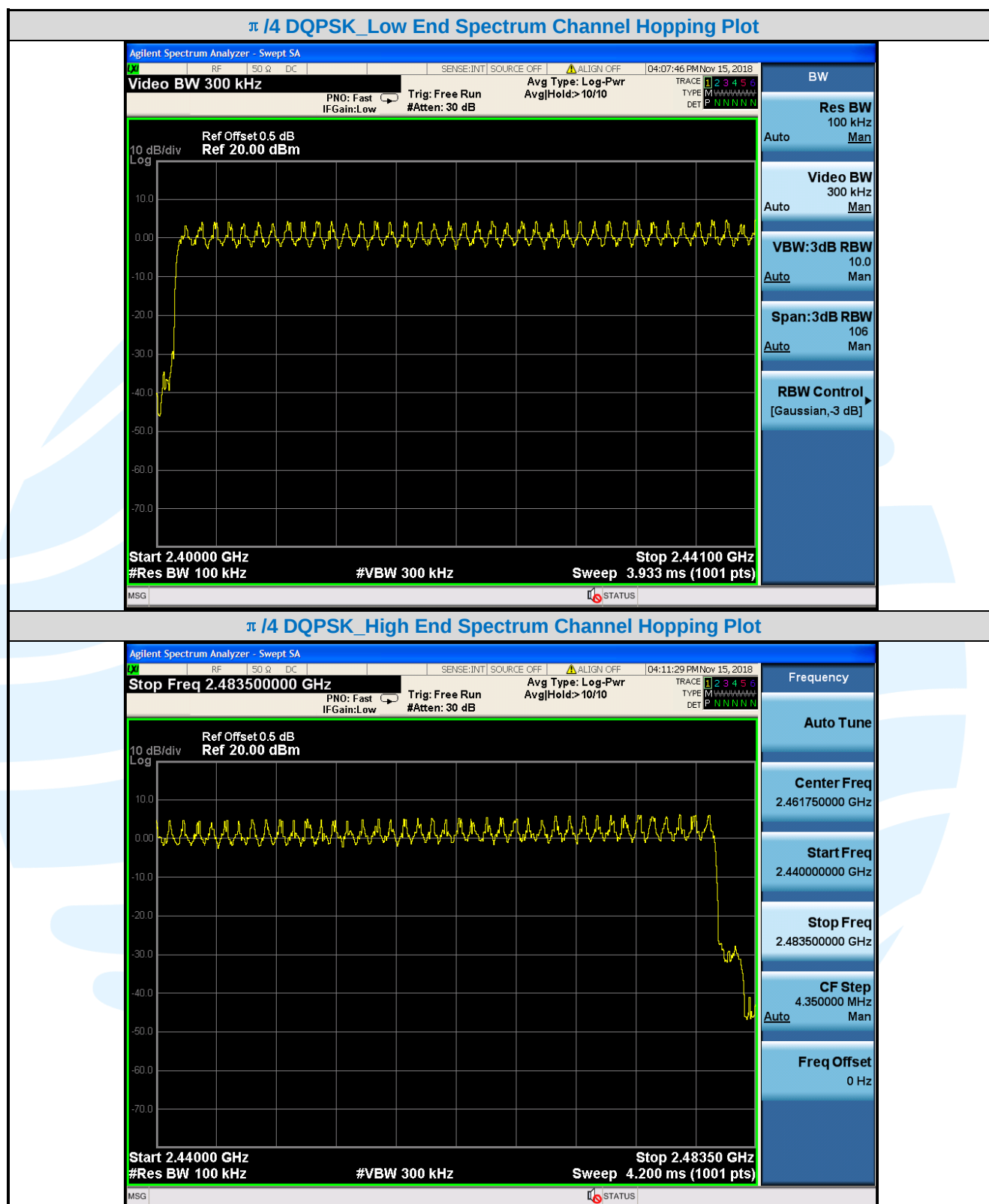
Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

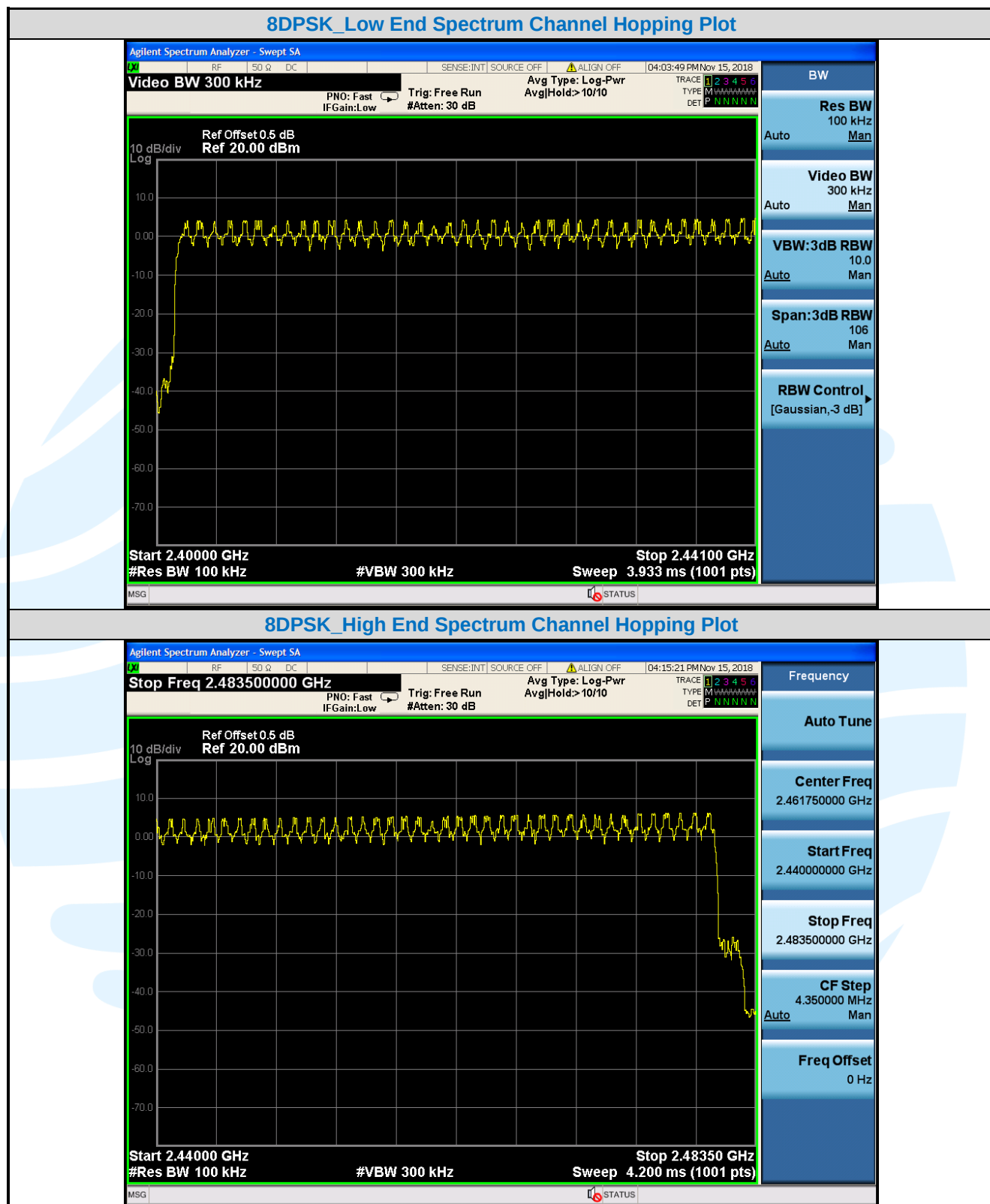
Tel: +86-755-28230888

Fax: +86-755-28230886

E-mail: info@uttlab.com

[Http://www.uttlab.com](http://www.uttlab.com)





5.7 DWELL TIME

- Test Requirement:** FCC 47 CFR Part 15 Subpart C Section 15.247(a)(1)
RSS-247 Issue 2, Section 5.1(d)
- Test Method:** ANSI C63.10-2013 Section 7.8.4
- Limit:** Frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.
- Test Procedure:** Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
Use the following spectrum analyzer settings:
- Span = zero span, centered on a hopping channel
 - RBW shall be $\leq$ channel spacing and where possible RBW should be set $\gg 1 / T$, where T is the expected dwell time per channel.
 - Sweep = As necessary to capture the entire dwell time per hopping channel; where possible use a video trigger and trigger delay so that the transmitted signal starts a little to the right of the start of the plot. The trigger level might need slight adjustment to prevent triggering when the system hops on an adjacent channel; a second plot might be needed with a longer sweep time to show two successive hops on a channel.
 - Detector function = peak
 - Trace = max hold
 - Use the marker-delta function to determine the dwell time
- Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.
- Test Setup:** Refer to section 4.5.3 for details.
- Instruments Used:** Refer to section 3 for details
- Test Results:** Pass

Left Ear

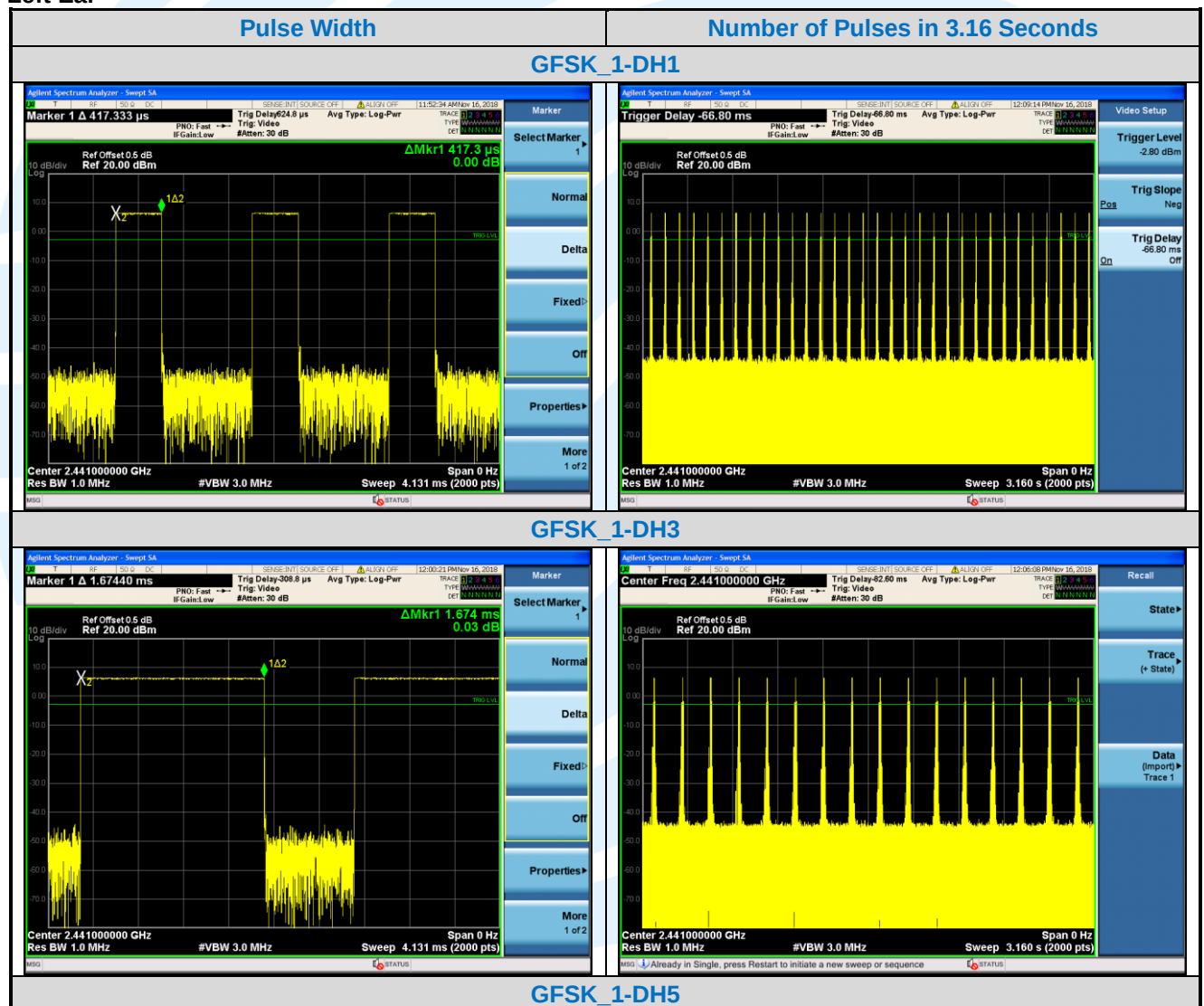
Type of Modulation	Test Frequency	Packet	Pulse Width	Number of Pulses in 3.16 seconds	Dwell Time	Limit
			ms		ms	ms
GFSK	2441MHz	1-DH1	0.417	32.000	133.54	< 400
		1-DH3	1.674	16.000	267.84	< 400
		1-DH5	2.922	11.000	321.42	< 400
$\pi/4$ DQPSK	2441MHz	2-DH1	0.428	32.000	136.86	< 400
		2-DH3	1.681	16.000	268.96	< 400
		2-DH5	2.931	11.000	322.41	< 400
8DPSK	2441MHz	3-DH1	0.429	32.000	137.25	< 400
		3-DH3	1.679	16.000	268.64	< 400
		3-DH5	2.931	11.000	322.41	< 400

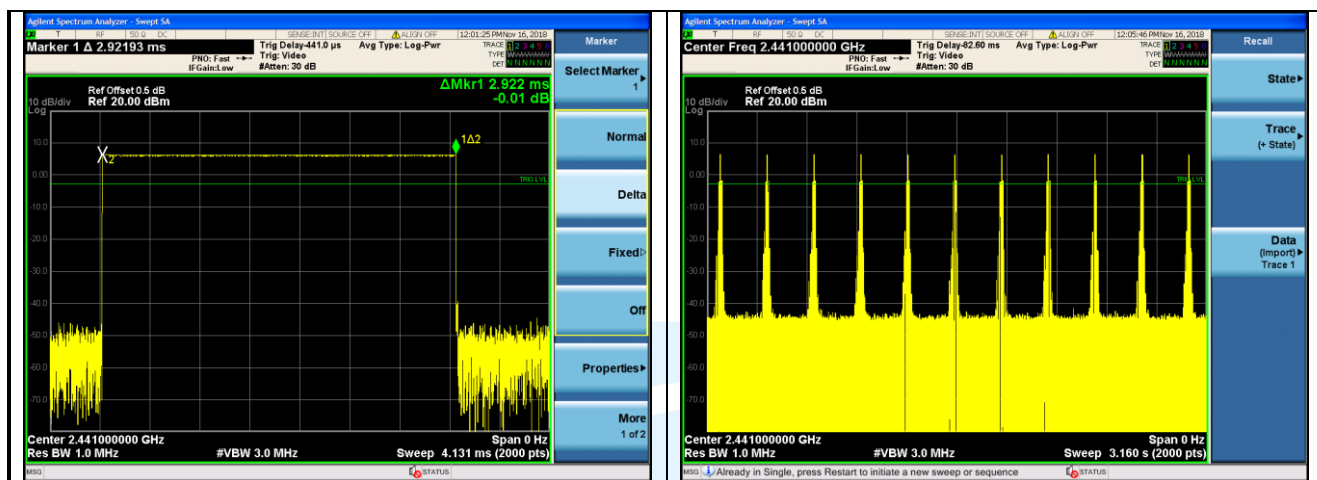
Right Ear

Type of Modulation	Test Frequency	Packet	Pulse Width	Number of Pulses in 3.16 seconds	Dwell Time	Limit
			ms		ms	ms
GFSK	2441MHz	1-DH1	0.417	32.000	133.47	< 400
		1-DH3	1.673	16.000	267.68	< 400
		1-DH5	2.922	11.000	321.42	< 400
$\pi/4$ DQPSK	2441MHz	2-DH1	0.430	32.000	137.47	< 400
		2-DH3	1.681	16.000	268.96	< 400
		2-DH5	2.928	11.000	322.08	< 400
8DPSK	2441MHz	3-DH1	0.432	32.000	138.14	< 400
		3-DH3	1.681	16.000	268.96	< 400
		3-DH5	2.932	11.000	322.52	< 400

The test plots as follows:

Left Ear





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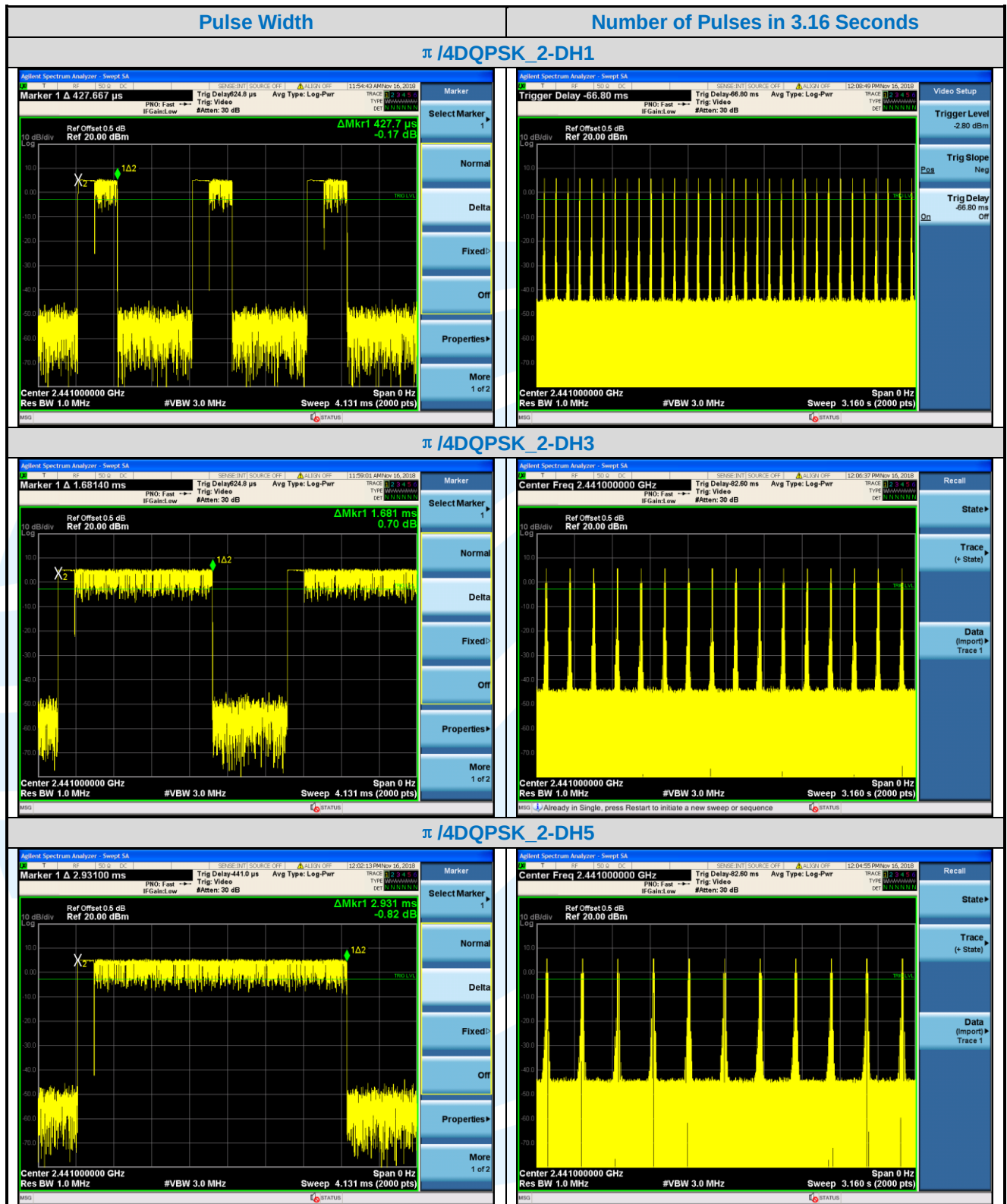
Address: 16/F, Block A, Building 6, Baoneng Science and Technology Park, Qingxiang Road No.1, Longhua New District, Shenzhen, China

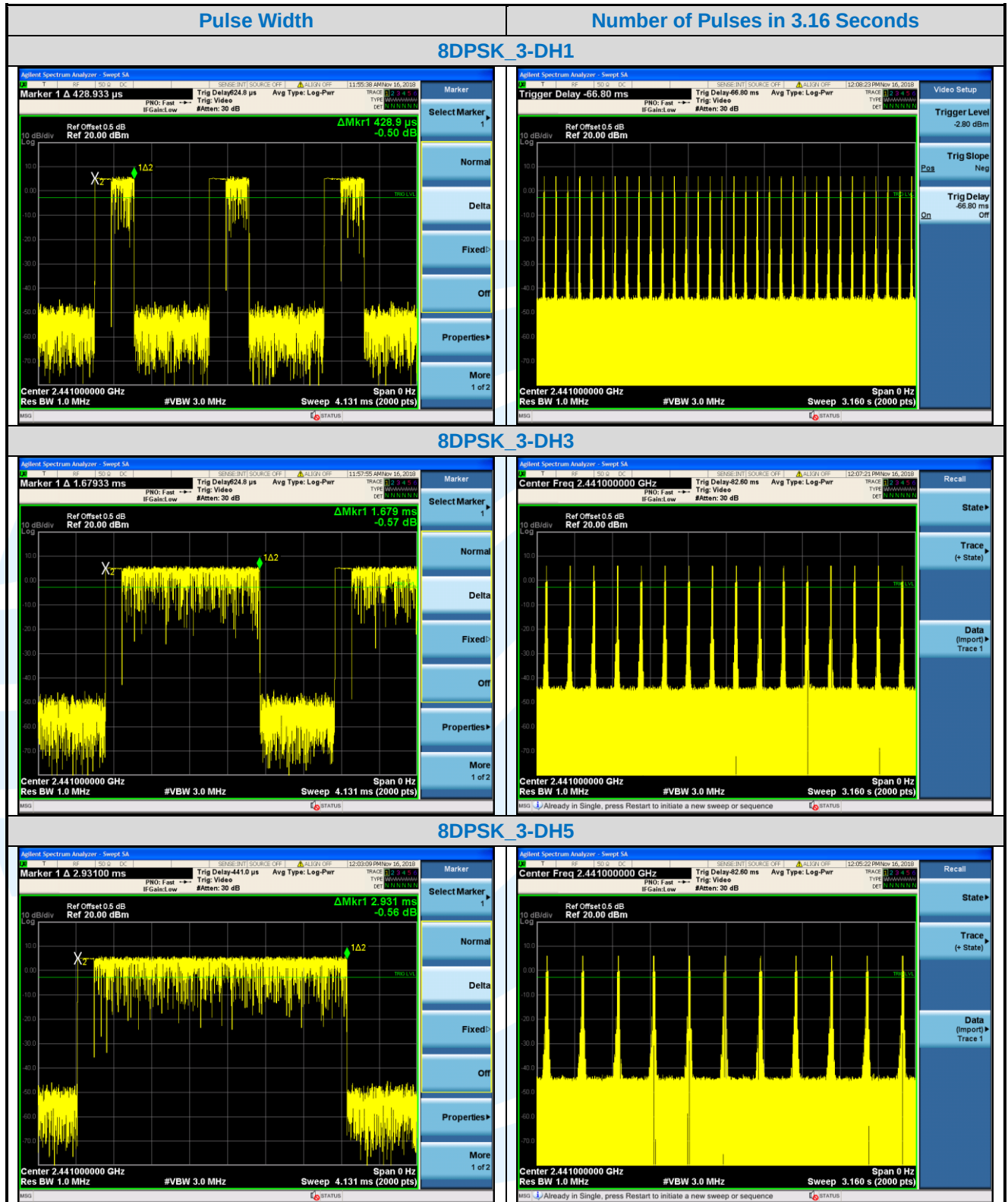
Tel: +86-755-28230888

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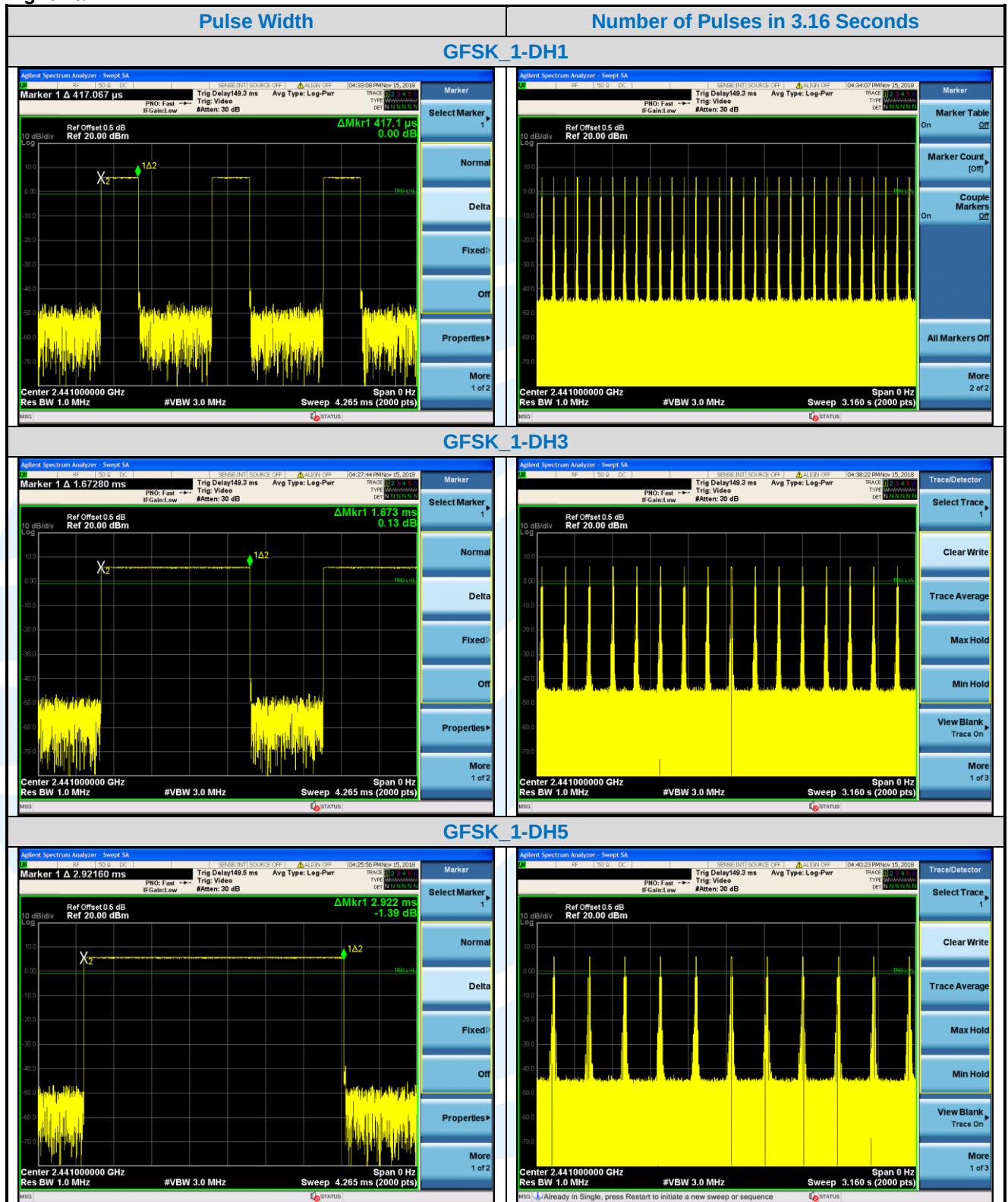
E-mail: info@uttlab.com

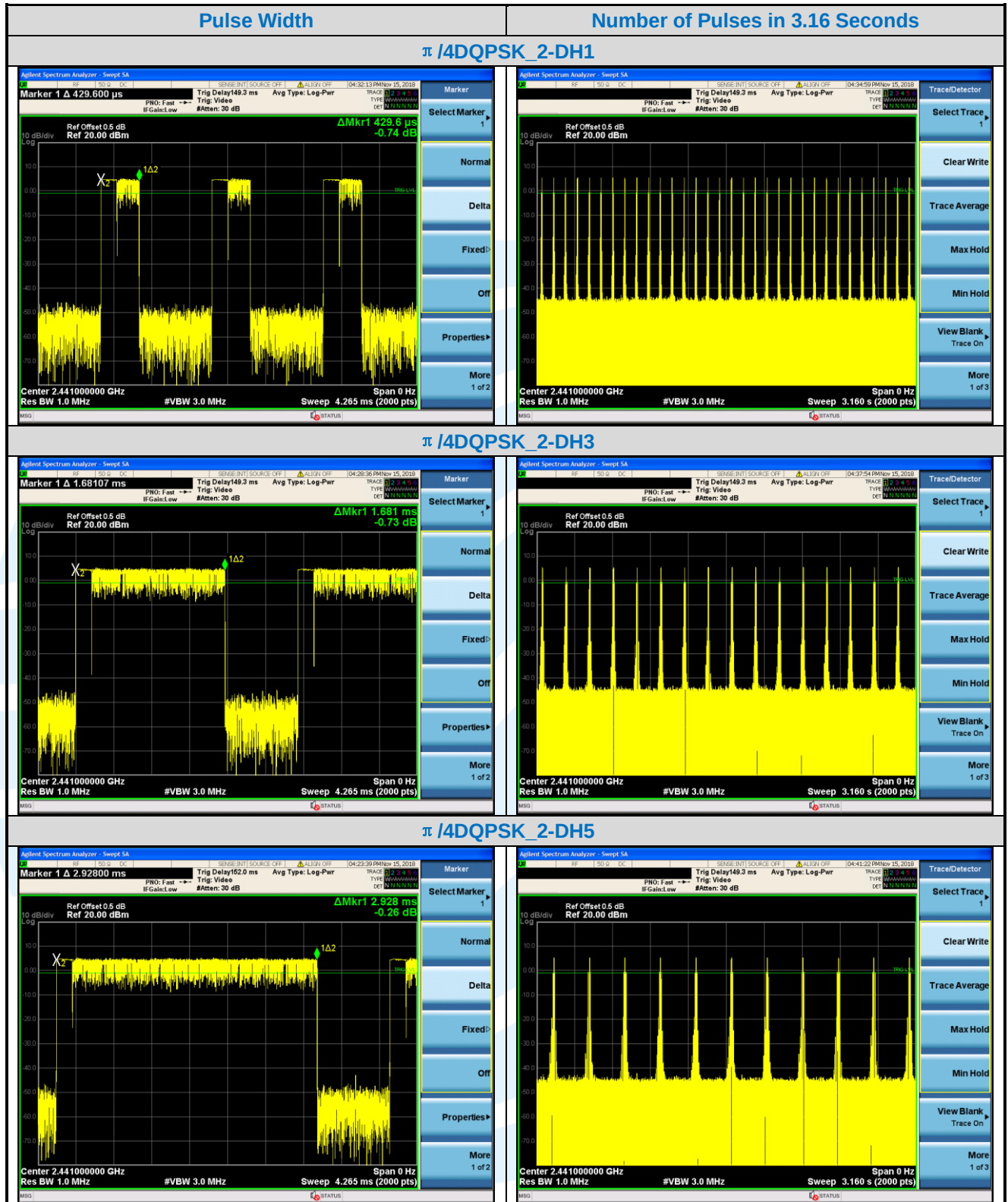
[Http://www.uttlab.com](http://www.uttlab.com)

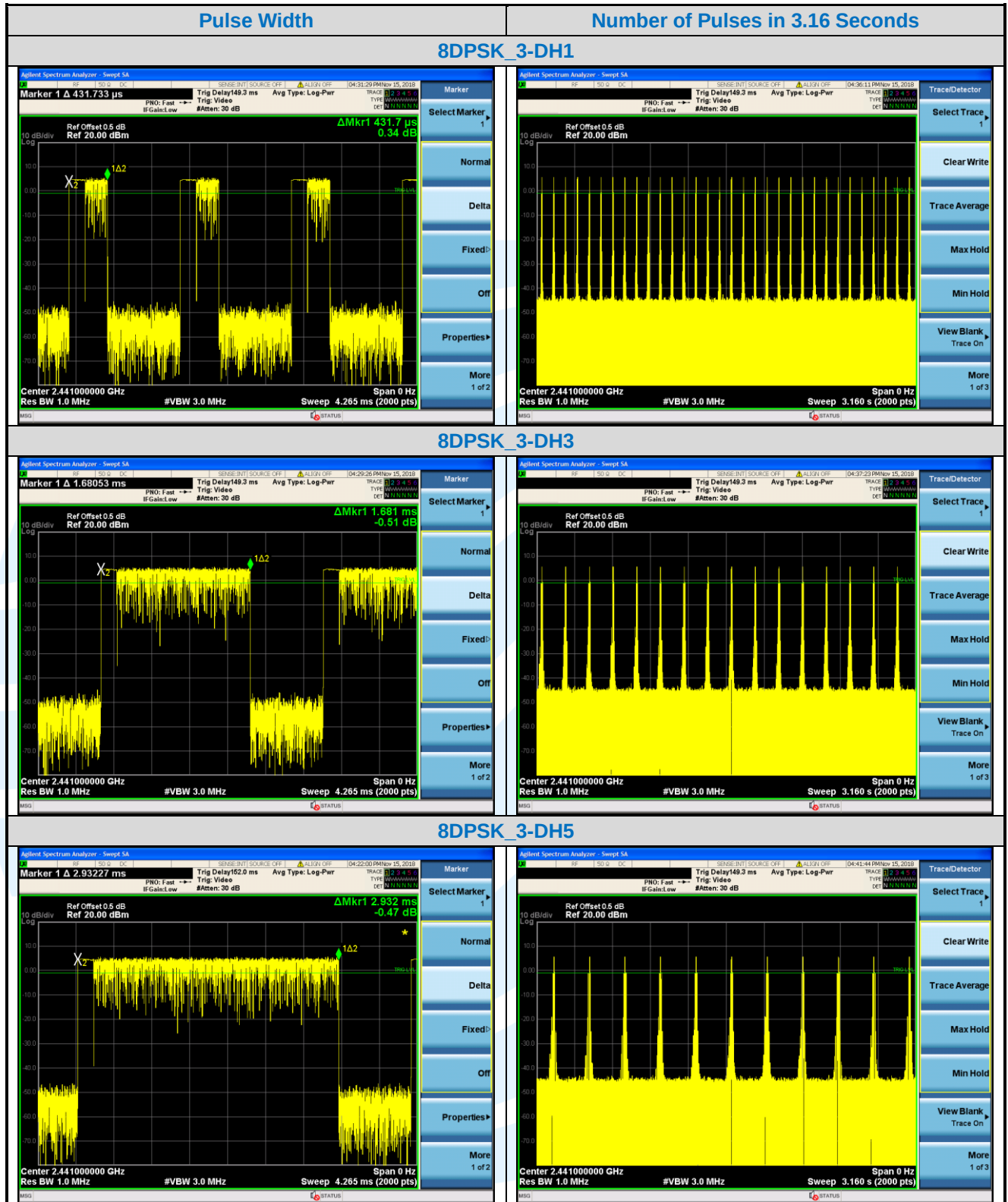




Right Ear







5.8 CONDUCTED OUT OF BAND EMISSION

Test Requirement:	FCC 47 CFR Part 15 Subpart C Section 15.247(d) RSS-247 Issue 2, Section 5.5
Test Method:	ANSI C63.10-2013 Section 6.10.4 & Section 7.8.8
Limit:	In any 100kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.
Test Procedure:	Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer. Use the following spectrum analyzer settings:

Step 1: Measurement Procedure REF

- Set instrument center frequency to 2400 MHz or 2483.5 MHz.
- Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation.
- Set the RBW = 100 kHz.
- Set the VBW $\geq 3 \times$ RBW.
- Detector = peak.
- Sweep time = auto couple.
- Sweep points $\geq 2 \times$ Span/RBW
- Trace mode = max hold.
- Allow the trace to stabilize.
- Set the marker on the emission at the band edge, or on the highest modulation product outside of the band, if this level is greater than that at the band edge. Enable the marker-delta function, and then use the marker-to-peak function to move the marker to the peak of the in-band emission.

Step 2: Measurement Procedure OOBE

- Set RBW = 100 kHz.
- Set VBW ≥ 300 kHz.
- Detector = peak.
- Sweep = auto couple.
- Trace Mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum amplitude level.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup:	Refer to section 4.5.3 for details.
Instruments Used:	Refer to section 3 for details
Test Mode:	Hopping Frequencies Transmitter mode
Test Results:	Pass
Test Data:	

Left Ear