















































































































































































Appendix C: Duty Cycle Test Result

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final setting For VBW (kHz)
11A	2.05	2.09	0.981	98.1 %	0.083	0.49	1
11N20MIMO	1.91	1.96	0.974	97.4 %	0.114	0.52	1
11N40MIMO	0.93	0.99	0.939	93.9 %	0.273	1.08	2
11AC80MIMO	0.25	0.31	0.806	80.6 %	0.937	4.00	5
11AC160MIMO	0.15	0.21	0.714	71.4 %	1.463	6.67	7

Note:

Duty Cycle Correction Factor=10log(1/x).

Where: x is Duty Cycle (Linear)

Where: T is On Time (transmit duration)

If that calculated VBW is not available on the analyzer then the next higher value should be used.



Test Graphs





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Keysight Spectrum Analyzer - Swept SA K R L R F 50 Ω DC		SENSE:INT	ALIGN AUTO	01:32:53 PM Jul 15, 2020	
Center Freq 5.1900000	0 GHz	Trig Delay-200.0 µs Trig: Video	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P P	Frequency
NFE	PNO: Fast +++ IFGain:Low	#Atten: 40 dB		DET P P P P P P	
Ref Offset 21.81 di				ΔMkr3 989.3 µs	Auto Tune
10 dB/div Ref 30.00 dBm	b			16.43 ḋB	
20.0 A 20.1					Comboo From
	um standalati p	North Address of the	alandar al-ishisin y	adamatali Milandalin Nis	Center Freq 5.190000000 GHz
0.00					
-10.0				TRIQLVL	
-20.0		1			Start Freq
-30.0					5.190000000 GHz
-40.0					
-50.0					Stop Freq
-60.0					5.190000000 GHz
Center 5.190000000 GHz				Span 0 Hz	CF Step
Res BW 8 MHz	#VBW	8.0 MHz		10.13 ms (8000 pts)	8.000000 MHz Auto Man
MKR MODE TRC SCL X	919.6 µs	Y FUNC -6.88 dBm	TION FUNCTION WIDTH	FUNCTION VALUE	
2 Δ1 1 t (Δ)	934.8 μs (Δ)	19.29 dB			Freq Offset
3 Δ1 1 t (Δ)	989.3 μs (Δ)	16.43 dB			0 Hz
5 6				E	L
7 8					Scale Type
9					
10 11				-	Log <u>Lin</u>
<		ш		•	
MSG			STATU		
	110	C80MIMO	1 n+2 E2	40	
	1173		_Aniz_bz	10	
Keysight Spectrum Analyzer - Swept SA	1173				- 2 -
🗱 RL RF 50Ω DC) GHz	SENSE:INT	ATTLZ_52 ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15, 2020	Frequency
Keysight Spectrum Analyzer - Swept SA RL RF 50 Ω DC Center Freq 5.21000000 NFE) GHz	SENSE:INT	ALIGN AUTO		
027 RL RF 50Ω DC Center Freq 5.21000000 NFE		SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PMJul 15, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P ΔMkr3 309.1 us	
RL № 50Ω DC Center Freq 5.2100000 NFE Ref Offset 21.5 dB Ref 30.00 dBm) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15, 2020	Frequency
RL RF SO.0 DC Center Freq 5.21000000 NFE NFE NFE 10 dB/div Ref Offset 21.5 dB NFE NFE) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PMJul 15, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P ΔMkr3 309.1 us	Frequency Auto Tune
RL RF S0.0 DC Center Freq 5.21000000 NFE Ref Offset 21.5 dB Ref 30.00 dBm Log Ref 30.00 dBm) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PMJul 15, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P ΔMkr3 309.1 us	Frequency Auto Tune Center Freq
0 RL № 500.0C Center Freq 5.21000000 NFE 10 dB/div Ref 30.00 dBm 200 200 10 301 10 301) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PMJul 15, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P ΔMkr3 309.1 us	Frequency Auto Tune
RL № 500.00 Center Freq 5.21000000 № NFE NFE 10 dB/div Ref Offset 21.5 dB 20 20 20 321 00 321) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PMJul 15, 2020 TRACE 1 2 3 4 5 6 TYPE WWWWWWW DET P P P P P ΔMkr3 309.1 us	Auto Tune
RL № 50.0.0c Center Freq 5.210000000 MFE NFE Ref Offset 21.5 dB 10 dB/div Ref 30.00 dBm 200 341 0.00 341 0.00 341) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15,2020 TRACE[1:3:34 5 6 TYPE[WWWWW DET]P P P P P AMkr3 309.1 µs -0.04 dB	Auto Tune
0 Rt PF 500 0C Center Freq 5.2100000 NFE Ref Offset 21.5 dB 10 dB/div Ref 30.00 dBm 200 10 0 10 0 10 0 200 10 0 200 10 0 200 10 0 10) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15,2020 TRACE[1:3:34 5 6 TYPE[WWWWW DET]P P P P P AMkr3 309.1 µs -0.04 dB	Auto Tune
RL № 50.0 0.0 Center Freq 5.21000000 NFE NFE 10 dB/dlv Ref Offset 21.5 dB 0.0 20.0 10.0 3Δ.1 10.0 10.0 10.0 3Δ.1 10.0 20.0 10.0 3Δ.1 10.0 30.0 3Δ.1 10.0 10.0) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15,2020 TRACE[1:3:34 5 6 TYPE[WWWWW DET]P P P P P AMkr3 309.1 µs -0.04 dB	Auto Tune
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RL № 500.0C Center Freq 5.21000000 wfE 10 dB/div Ref 0ffset 215 dB 20 dB/div Ref 30.00 dBm 20 dB/div Ref 30.00 dBm 20 dB/div Ref 30.00 dBm 30 dB/div Ref 30.00 dBm 50 dB/div Ref 30.00 dBm) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 PM Jul 15,2020 TRACE[1:3:34 5 6 TYPE[WWWWW DET]P P P P P AMkr3 309.1 µs -0.04 dB	Frequency Auto Tune Center Freq 5.21000000 GHz Start Freq 5.21000000 GHz
RL № 50.0 0.0 Center Freq 5.21000000 MFE 10 dBddiv Ref Offset 21.5 dB 20.0) GHz	SENSE:INT Trig Delay-200.0 µs Trig: Video	ALIGN AUTO #Avg Type: RMS	03:05:46 MM J 15,2020 TRACE [] 13:45 6 Tree Weatwork out P P P P P ΔMkr3 309.1 μs -0.04 dB main b a main b a mai	Frequency Auto Tune Center Freq 5.21000000 GHz Start Freq 5.21000000 GHz
Center 5.21000000 GHz	O GHz PNO: Fast ↔ IFGainLow	Trig Delay-200.0 µs Trig: Video #Atten: 40 dB	ALION AUTO SAvg Type: RMS	0305-4679/30/15,2020 T ^{MCC} 34 5 6 T ^{MCC} 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Frequency Auto Tune Center Freq 5.21000000 GHz Start Freq 5.21000000 GHz Stop Freq 5.21000000 GHz CF Step
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R 500 DC Center Freq 5.21000000 MFE NFE Ref Offset 215 dB 10 dB/div Ref 30.00 dBm 200 301 MFE 200 MFE MFE 201 MFE MFE	9 GHz PNO: Fast ↔ IFGainLow #VBW 253.3 µs	SENSENT Trig: Video #Atten: 40 dB # Sensent Sensent	ALION AUTO #Avg Type: RMS	0345+46 94/34/15,2020 THACE 11 3 4 5 6 THE 11 7 4 4 5 6 THE 11 7 4 4 5 6 THE 11 7 4 5 6 THE 11 7 4 5 6 THE 11 7 4 5 7 10 10 10 10 10 10 10 10 10 10 10 10 10 1	Frequency Auto Tune Center Freq 5.21000000 GHz Start Freq 5.21000000 GHz Stop Freq 5.21000000 GHz CF Step 8.000000 MHz
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Ref Soa Dec Center Freq 5.21000000 MFE NFE Ref Offset 215 dB 10 dB/div Ref 30,00 dBm 20 0 301 10 0 301 10 0 301 10 0 301 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 10 0 100 11 0 100 10 10 100	2 GHz PNO: Fast →→ IFGaint.ow #VBW 253.3 us (Δ)	Sevend	ALION AUTO EAVo Type: RMS	03:05:46 9M Jul 15, 2020 Trace 3 4 5 6 Trace 3 4 5 6 Trace 3 4 5 6 Trace 3 4 5 6 Trace 1 4 5 6 Trac	Frequency Auto Tune Center Freq 5.210000000 GHz 5.210000000 GHz Start Freq 5.210000000 GHz Stop Freq 8.000000 GHz CF Step 8.000000 MHz Man Freq Offset 0 Hz Scale Type
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