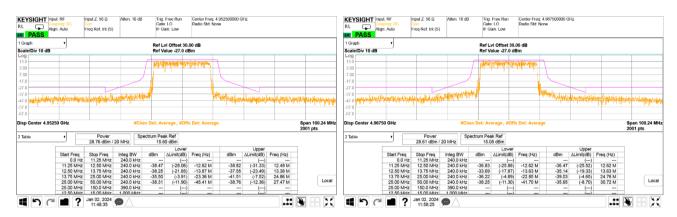
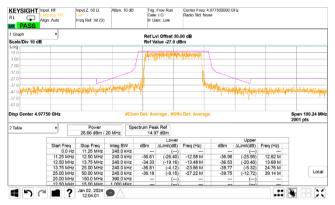


Test specification:	Section 90.210, Emission mask							
Test procedure:	47 CFR, Sections 2.1051, 2.10	47 and 90.210(m)						
Test mode:	Compliance	Verdict:	PASS					
Date(s):	27-Dec-23	verdict.	PASS					
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC					
Remarks:	•							

Plot 7.3.13 Emission mask test results at low, mid, high carrier frequency, 25 MHz CBW

OPERATING FREQUENCY RANGE: DETECTOR USED: MODULATION: MODULATING SIGNAL: TRANSMITTER OUTPUT POWER SETTINGS: ANTENA CHAIN 4945.0 – 4985.0 MHz Peak QPSK PRBS Maximum 2

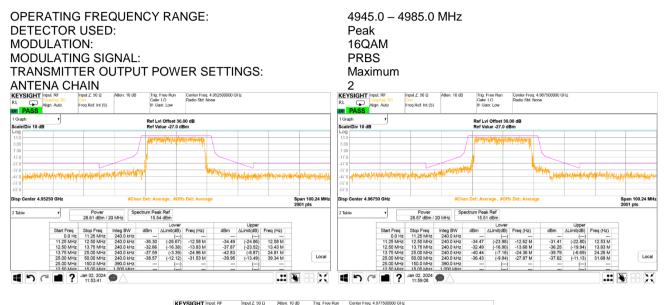


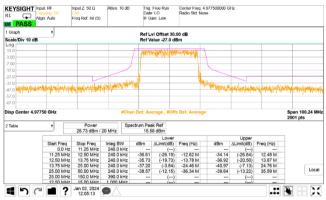




Test specification:	Section 90.210, Emission mask							
Test procedure:	47 CFR, Sections 2.1051, 2.10	47 and 90.210(m)						
Test mode:	Compliance	Verdict:	PASS					
Date(s):	27-Dec-23	verdict:	PASS					
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC					
Remarks:								

Plot 7.3.14 Emission mask test results at low, mid, high carrier frequency, 25 MHz CBW

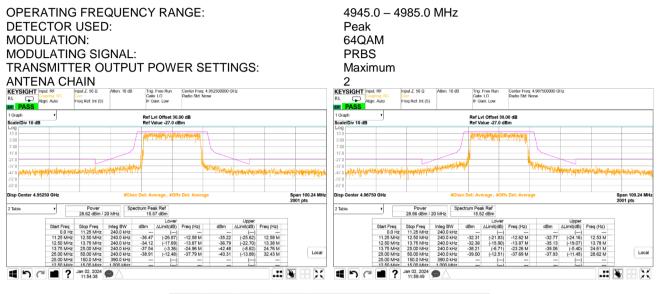






Test specification:	Section 90.210, Emission mask							
Test procedure:	47 CFR, Sections 2.1051, 2.10)47 and 90.210(m)						
Test mode:	Compliance	Verdict:	PASS					
Date(s):	27-Dec-23	verdict.	PASS					
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC					
Remarks:	-							

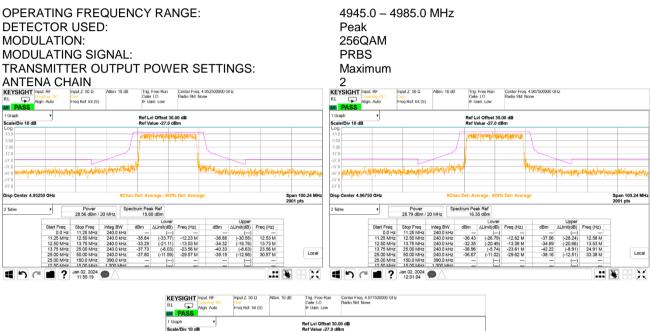
Plot 7.3.15 Emission mask test results at low, mid, high carrier frequency, 25 MHz CBW



KEYSIGHT RL PASS	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corr Freq Ref: Int (S)	Atten: 10 dB	Cab	: Free Run e: LO lain: Low	Center Freq Radio Std: N	: 4.977500000 G None	iHz		
Graph	•				vi Offset 30.					
cale/Div 10 d	B			Ref V	'alue -27.0 d	Bm				
.og										
13.0				/ SUIN	way to page	PARTICIPATION OF	7			
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7.0							Maller .			
	للود بالتبار وأرغر هوما	الأرقة المرابر والأحرج ورجاريته	at the second second	14			THE REAL PROPERTY IN COMPANY	distant of the second sec	فللمعطا وسيعالنه	and a line of the second s
2.0 Ministration	on indated front	برهج والفا لمحص	411 A.				1 1 1 1 1 1 1 1 1	. a the suble of the second	ny production	a data da da seria d
7.0										
7.0										
sp Center 4.	97750 GHz		#Cha	n Det: Av	erage, #Off	s Det: Avera	ige			Span 100.24 M 2001 pts
Table	•	Power		ctrum Pe						
		28.75 dBm /	20 MHz	15.5	55 dBm					
					Lower			Upper		7
	Start Fre	a Stop Frea	Integ BW	dBm	∆Limit(dB)	Freq (Hz)	dBm	∆Limit(dB)	Freq (Hz)	-
	0.0	Hz 11.25 MHz	240.0 kHz		()			()		-
	11.25 M	Hz 12.50 MHz	240.0 kHz	-38.07	(-28.44)	-12.58 M	-35.14	(-24.69)	12.62 M	
	12.50 M	Hz 13.75 MHz	240.0 kHz	-34.62	(-20.27)	-13.43 M	-36.06	(-19.61)	13.87 M	
	13.75 M		240.0 kHz	-39.45	(-5.09)	-25.06 M	-40.24	(-7.49)	24.06 M	
	25.00 M		240.0 kHz	-37.85	(-11.40)	-29.52 M	-39.32	(-12.87)	30.82 M	Loc
	25.00 M		390.0 kHz		()			()		
	12.50 M	Hz 15.00 MHz	1.000 MHz		((



Test specification:	Section 90.210, Emission mask					
Test procedure:	47 CFR, Sections 2.1051, 2.104	7 and 90.210(m)				
Test mode:	Compliance	Verdict:	PASS			
Date(s):	27-Dec-23	verdict:	PASS			
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC			
Remarks:						

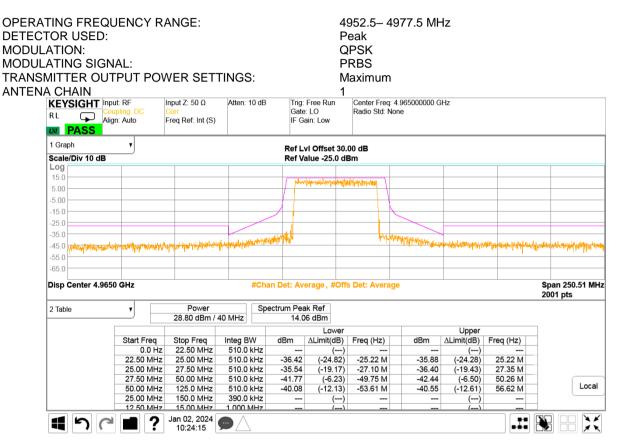


Plot 7.3.16 Emission mask test results at low, mid, high carrier frequency, 25 MHz CBW

KEYSIGHT RL PASS	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corr Freq Ref: Int (S)	Alten: 10 dB	Cate	Free Run : LO ain: Low	Center Freq Radio Std: 1	; 4.977500000 G None	iHz		
Graph cale/Div 10 d					vi Offset 30. alue -27.0 d					
	•			Reiv	side •27.0 d	BIII				
3.0				/ And	ter materia	is de Mitane da	7			
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O PARTY IN	hand the opposite of the second	National Products of the Party	Law a way a	14			L. no. 1. WWW	http://www.	energy and an inclusion of the	er priselike freiher fallense
.0	1.1.1.1.1.1.	the second second		_				1 . M. J.	the second of	t de la de traces
7.0										
sp Center 4.	97750 GHz					is Det: Avera	190			Span 100.24 Mi 2001 pts
able	'	Power 28.56 dBm /		ctrum Pea 15.6	k Ref 6 dBm					
					Lower			Upper		
	Start Freq	Stop Freq	Integ BW	dBm	∆Limit(dB)	Freq (Hz)	dBm	∆Limit(dB)	Freq (Hz)	_
	0.0 H		240.0 kHz 240.0 kHz	-37.43	()	-12.62 M	-39.30	()	12.58 M	-
	11.25 MH		240.0 KHZ 240.0 kHz	-37.43	(-27.08)	-12.62 M	-39.30	(-29.78) (-19.04)	12.58 M	-
	13.75 MH		240.0 kHz	-37.72	(-7.32)	-22.65 M	-42.07	(-7.74)	25.11 M	
	25.00 MH		240.0 kHz	-38.72	(-12.38)	-25.71 M	-38.73	(-12.39)	39.34 M	Loca
	25.00 MH		390.0 kHz		()			()		
	12.50 MH	z 15.00 MHz	1.000 MHz		()			(
()	" 🔳 ?	Jan 02, 2024 12:06:27	\square							N X



Test specification:	Section 90.210, Emission mask						
Test procedure:	47 CFR, Sections 2.1051, 2.104	7 and 90.210(m)					
Test mode:	Compliance	Verdict:	PASS				
Date(s):	27-Dec-23	verdict:	PA33				
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC				
Remarks:							



Plot 7.3.17 Emission mask test results at mid carrier frequency, 50 MHz CBW



Test specification:	Section 90.210, Emission mask							
Test procedure:	47 CFR, Sections 2.1051, 2.10	047 and 90.210(m)						
Test mode:	Compliance	Verdict:	PASS					
Date(s):	27-Dec-23	verdict:	PA35					
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC					
Remarks:			·					

Plot 7.3.18 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FI DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIR	SED: SIGNAL: OUTPUT N KEYSIGHT II	POWER	R SETTIN	IGS: Atten: 10			Peak 16QAN PRBS Maximu 1	JM q: 4.965000000 G			
		oupling: DC lign: Auto	Corr Freq Ref: Int (S)			Gain: Low	Radio Std:	None			
	1 Graph										
	Scale/Div 10 dB					Lvl Offset 30 Value -25.0 d					
	Log 15.0										
	5.00				\square	MAN AN AN AN AN AN AN AN	the strategy and the st				
	-5.00							¥			
	-15.0				$- \wedge$			\wedge			
	-25.0										
	-35.0				. La state			alideath free down			
	-45.0 + wron that	another the work of the	energy and an and an an	system white the	hologout, u			and a start which	adden a thing and a street	Allowing - Allowing	hiterenerated the state of the
	-55.0										
	-65.0										
	Disp Center 4.96	50 GHz		#	Chan Det: /	Average, #Of	fs Det: Aver	age			Span 250.51 MHz 2001 pts
	2 Table	•	Power		Spectrum F	eak Ref					
			28.86 dBm /	40 MHz	1	4.36 dBm					
						Lower			Upper		
		Start Freq	Stop Freq 22.50 MHz	Integ BV 510.0 k		∆Limit(dB)		dBm	∆Limit(dB)	Freq (Hz)	_
		0.0 Hz 22.50 MHz		510.0 k		(()	25.22 M	~
		25.00 MHz		510.0 k					(-20.23)		-
		27.50 MHz		510.0 k		62 (-8.28			(-7.01)		
		50.00 MHz		510.0 k					(-12.33)		Local
		25.00 MHz 12.50 MHz		390.0 k		(()		-
		≤ ■ ≤	Jan 02, 2024 10:26:11								



Test specification:	Section 90.210, Emission mask						
Test procedure:	47 CFR, Sections 2.1051, 2.104	7 and 90.210(m)					
Test mode:	Compliance	Verdict:	PASS				
Date(s):	27-Dec-23	verdict:	PASS				
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC				
Remarks:							

Plot 7.3.19 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FI DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIL	SIG SIG	: NAL	:			NGS:			F E F	Peak 64QAN PRBS Maximu		MHz			
	KEY	SIGHT			Input Z: 50 Ω	Atten: 1	0 dB		Free Run		q: 4.965000000 G	GHz			
	RL	\mathbf{P}	Coup Align:	ling: DC Auto	Corr Freq Ref: Int (S	,		Gate	:LO ain:low	Radio Std:	None				
	L)(I	PASS				<u> </u>									
	1 Grap	oh		v				Pofis	/I Offset 30.	00 dB					
	Scale	/Div 10	dB						alue -25.0 di						
	Log														
	15.0							MANY	HIN + HIMAN	HARPAN HAR					
	5.00						1	T.		· · · ·	V				
	-5.00														
	-25.0							1							
	-35.0							1							
	-45.0	- Manada da Car		ales bearing	ntervenikelerherdenskelaggi	hereingeheiter	and the state of t	ψ.			Mar any here with a particular by the	shaken ghan han made		White America	and the second second
	-55.0	en en partire de		1977 B. 1977 B. 1	anatie le de						-				
	-65.0														
	Disp	Center 4	.9650	GHz			#Chan De	et: Ave	erage, #Off	s Det: Aver	age			Span 2001	250.51 MHz ots
	2 Table	0		•	Power		Spectrur	n Pea	k Ref						
					28.65 dBm	/ 40 MHz			7 dBm						
			Γ						Lower			Upper			
				Start Freq		Integ B\		lm	$\Delta \text{Limit}(\text{dB})$	Freq (Hz)	dBm	∆Limit(dB)	Freq (Hz)		
				0.0 F					()			()			
			-	22.50 MH 25.00 MH				35.42 36.64	(-27.14) (-19.48)	-24.97 M		(-26.68)	25.22 M 27.22 M		
			-	27.50 MF				10.37	(-7.24)	-47.63 M		(-21.43)	50.26 M	-	
				50.00 MH		510.0	(Hz -4	10.74	(-13.50)	-56.49 M		(-11.78)	57.12 M		Local
				25.00 MH					()			()			
				12.50 MH	_		IH7		()			()			
		ら	2	2	Jan 02, 2024 10:29:36										



Test specification:	Section 90.210, Emission mask							
Test procedure:	47 CFR, Sections 2.1051, 2.1	047 and 90.210(m)						
Test mode:	Compliance	Verdict:	PASS					
Date(s):	27-Dec-23	verdict:	PA33					
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC					
Remarks:								

Plot 7.3.20 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FI DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIN	SIG	: SNAL	_:				IGS:				P 25 P	952.5- eak 56QAN RBS laximu		MHz		
	-	SIGH	T Input	t: RF		Input Z: 50 Ω	Atten:	10 dB		ig: Free Run			q: 4.965000000 (GHz		
	RL	<u> </u>	Cou	pling: DC n: Auto		Corr Freq Ref: Int (S)				ate: LO Gain: Low		Radio Std: 1	None			
	Da	PASS		I. Auto		Fied Kei. IIIt (3)			1	Gain. LOW						
	1 Gra			v												
		/Div 10	dB							Lvi Offset Value -25.						
	Log								T							
	15.0	-							1	unnerse hiterites	lephilyud	And Anthe A				
	5.00								11			11				
	-5.00 -15.0															
	-15.0							\sim								
	-25.0						\neg									
	-45.0	calvado chat	latainan	alexander that he	hine affect &	per la presidente de la pr	المراجعة المراجع	WHAT HA	n HW			***	an the state of the state of the	And a start of the second second	modelidentestest	Hilling and the state of the st
	-55.0	and a stress	له، سمين	discontrist.	and the first of the second	- West - Street - M										
	-65.0								-							
	Disp	Center	4.9650	GHz				#Chan I	Det: /	Average,#	Offs	Det: Avera	age			Span 250.51 MHz 2001 pts
	2 Tabl	e		•		Power		Spect	rum F	eak Ref						
						28.86 dBm /	40 MHz		14	4.27 dBm						
										Low				Upper		
				Start F		Stop Freq 22.50 MHz	Integ B 510.0		dBm	∆Limit(d		Freq (Hz)	dBm	∆Limit(dB)		_
			-	22.50	.0 Hz MHz	22.50 MHz 25.00 MHz	510.0		-37.5) 19)	-25.10 M	-37.52	()	25.26 M	-
			-	25.00		27.50 MHz	510.0		-37.5			-27.35 M	-37.47			-
				27.50		50.00 MHz	510.0		-39.8			-50.00 M	-40.69			
				50.00 25.00		125.0 MHz	510.0		-41.6			-68.14 M	-39.44			Local
			-	25.00		150.0 MHz 15.00 MHz	390.0)			· ()		_
		5	2		?	Jan 02, 2024 10:31:27		\								



Test specification:	Section 90.210, Emission	mask	
Test procedure:	47 CFR, Sections 2.1051, 2.10	047 and 90.210(m)	
Test mode:	Compliance	Verdict:	PASS
Date(s):	27-Dec-23	verdict:	PA35
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC
Remarks:			·

Plot 7.3.21 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FI DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIN	SIGNA OUTF	NL: PUT I	POWE		NGS:		Trig: Fre	F C F N 2	Peak QPSK PRBS Maximu	- 4977.5 Im			
	KEYSIG RL C M PAS	Cou Aligr	pling: DC n: Auto	Corr Freq Ref: Int (S)			Gate: LO	С	Radio Std:		nz		
	1 Graph		•			F	Ref Lvi C	Offset 30.	00 dB				
	Scale/Div	10 dB				F	Ref Valu	e -25.0 de	Bm				
	Log												
	15.0					1	NAMAN	mmungels	ANA INCOME.				
	5.00						1		1 1 1 1 1 1				
	-5.00						_						
	-15.0									<u> </u>			
	-25.0												
	-35.0												
	0010			notive and the state of the second		supply to the	4		rw,	"In hereit high generatives	det. and the set of the	1.10 L. L. (19 Jackson 19 Jackson	estivleticontractificantelle
	-45.0	ar de la construction de la construction de la construcción de la construcción de la construcción de la constru La construcción de la construcción d	est	alphanese and a second	oh ha a service of the service of th					p	a ala staddar	A head of the state of the second	the fraction of the second
	-55.0												
	-65.0												
	Disp Cente	er 4.9650	GHz			#Chan De	t: Avera	ige, #Offs	s Det: Avera	age			Span 250.51 MHz 2001 pts
	2 Table		v [Power		Spectrur	n Peak F	Ref					
				28.79 dBm /	40 MHz		13.77 d	lBm					
		[Lower			Upper		ן ר
			Start Fre	g Stop Freg	Integ B	W dB	m ΔL	_imit(dB)	Freq (Hz)	dBm	∆Limit(dB)	Freq (Hz)	
			0.0		510.0			()			()		- 1
			22.50 M	Hz 25.00 MHz	510.0	kHz -3	5.28	(-23.40)	-25.22 M	-37.02	(-25.14)	25.22 M	
		-	25.00 M	Hz 27.50 MHz	510.0	kHz -3	7.02	(-19.76)	-27.35 M	-36.69	(-18.83)	27.60 M	
			27.50 M	Hz 50.00 MHz	510.0	kHz -4	0.99	(-5.46)	-49.38 M	-41.59	(-5.56)	50.00 M	
			50.00 M		510.0		0.31	(-12.08)	-64.01 M	-40.54	(-12.31)	97.07 M	Local
			25.00 M	Hz 150.0 MHz	390.0			()			()		1
			12.50 M	Hz 15 00 MHz	1 000 1	ИНт		()			()		
	4			Jan 02, 2024 10:36:01									እ 🔀



Test specification:	Section 90.210, Emission	mask	
Test procedure:	47 CFR, Sections 2.1051, 2.1	047 and 90.210(m)	
Test mode:	Compliance	Verdict:	PASS
Date(s):	27-Dec-23	verdict:	PASS
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.22 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FI DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIN	SIGNA OUTI	AL: PUT I	POWE		NGS:	10 dB	Trig: Free Run Gate: I O	Peak 16QAN PRBS Maxim 2	UM eq: 4.965000000 (
	RL (→ Aligr	n: Auto	Freq Ref: Int (S)			IF Gain: Low					
	1 Graph	55	T			_						
	Scale/Div	10 dB					ef Lvl Offset ef Value -25.					
	Log 15.0					,	atel, ille M. L. for	and a star	-			
	5.00						Terri a davidation	aleithead alphanessa	}			
	-5.00						-		1			
	-15.0								\sim			
	-25.0					الاسلام	1					
	-35.0 45.0 million		مام فيخبرون	antice and a second second	Marshuke	MY WANDAL AL	r	4	and the second second	to the Mallanda	Helensia and bas	ann an
	-55.0	di Manine na Na	و هاروال و رو و و و و	Reported Managements of the star	he for all the second					La sa sa sub	an indexe of the second se	day of a substitute set does
	-65.0											
	Disp Cent	er 4.9650	GHz			#Chan Def	: Average, #	Offs Det: Ave	erage			Span 250.51 MHz 2001 pts
	2 Table		v [Power		Spectrum	Peak Ref					2001 pts
			[28.59 dBm /	40 MHz		14.36 dBm					
							Lov			Upper		
		-	Start Fre 0.0		Integ B 510.0			/) dBm 	∆Limit(dB) ()	Freq (Hz)	-
		-	22.50 M		510.0		3.75 (-23.	/			25.10 M	-
		-	25.00 M		510.0		2.84 (-16.)			(-16.05)		-
			27.50 M		510.0		0.25 (-6.					
			50.00 M		510.0		7.87 (-10.			(-12.57)		Local
			25.00 M		390.0 1.000 M) -		()		-
	•			Jan 02, 2024 10:36:40		4						



Test specification:	Section 90.210, Emission	mask	
Test procedure:	47 CFR, Sections 2.1051, 2.10	047 and 90.210(m)	
Test mode:	Compliance	Verdict:	PASS
Date(s):	27-Dec-23	verdict:	PASS
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC
Remarks:			

Plot 7.3.23 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING FF DETECTOR US MODULATION: MODULATING TRANSMITTER ANTENA CHAIN	ED: SIGNAL: OUTPUT I N KEYSIGHT INPU	POWER		IGS: Atten: 1		F E F	Peak 64QAM PRBS Maximu	m 1: 4.965000000 G			
	RL 🖵 Alig		Freq Ref: Int (S)			Gain: Low	ruulo olu.	None			
	1 Graph										
	Scale/Div 10 dB					LvI Offset 30 Value -25.0 d					
	Log										
	15.0	_				wanth with him have being a	antribiletan.				
	5.00					e che il se altre					
	-5.00			_							
	-15.0							\wedge			
	-25.0										
	-35.0	_			and real the state			A WANT AND AND	and the second		
	-45.0 -45.0	Hall Break and the stille	unional and	Meridian	1				xalivathofr thikks	and the second	distation of the state of the s
	-55.0										
	-65.0										
	Disp Center 4.9650) GHz			#Chan Det: /	verage, #Of	fs Det: Avera	age			Span 250.51 MHz 2001 pts
	2 Table	•	Power		Spectrum P	eak Ref					
			28.53 dBm /	40 MHz	14	1.06 dBm					
						Lower			Upper		
		Start Freq	Stop Freq	Integ B\		∆Limit(dB)	Freq (Hz)	dBm		Freq (Hz)	
		0.0 Hz	22.50 MHz	510.0 k		- ()			()		_
		22.50 MHz 25.00 MHz	25.00 MHz 27.50 MHz	510.0 k				-36.78	(-24.84) (-17.09)		- 1
		25.00 MHz	50.00 MHz	510.01				-33.45	(-17.09)		
		50.00 MHz	125.0 MHz	510.01				-39.49	(-11.55)		Local
		25.00 MHz	150.0 MHz	390.01		- ()			()		
		12.50 MHz	15 00 MHz	1 000 N	1H7 -				()		
	1 7 C	🔳 ?	Jan 02, 2024 10:39:11								እ 🔀



Test specification:	Section 90.210, Emission	mask	
Test procedure:	47 CFR, Sections 2.1051, 2.10	047 and 90.210(m)	
Test mode:	Compliance	Verdict:	PASS
Date(s):	27-Dec-23	verdict:	PA35
Temperature: 23 °C	Relative Humidity: 47 %	Air Pressure: 1014 hPa	Power: 48 VDC
Remarks:			·

Plot 7.3.24 Emission mask test results at mid carrier frequency, 50 MHz CBW

OPERATING F			NC	Y RA	NG	E:					4952.5 Peak	- 4977.5	MHz		
DETECTOR US MODULATION:		<i>.</i>									Peak 256QA	N/			
MODULATING		ואואי									PRBS				
							100.				-				
TRANSMITTER		JIP		-00		SEITIN	1G2:				Maxim	um			
ANTENA CHAIN	-					17.50.0		10.15	ar -		2	1005000000			
	RL RL	SIGH	Cou	pling: DC		Input Z: 50 Ω Corr	Atten:	10 dB	Gate	: Free Run e: LO	Radio Std	eq: 4.965000000 (: None	əHZ		
				n: Auto		Freq Ref: Int (S)			IF G	ain: Low					
	1 Gra		2						_						
		e/Div 10	dB							vl Offset 30 alue -25.0 o					
	Log									4140 2010 1					
	15.0 5.00								1 10		un-un-production	\			
	-5.00														
	-15.0							/				<u> </u>			
	-25.0														
	-35.0							M. Martin Martin And	₩/			A state of the sta			
	-45.0	wind have	-	n in the second seco	MAYAN	penperpension	- Aller and a second	Weight 1				C. U. U. WA	Harris Hallandraha	only and the second	walkana mana kata kata kata kata kata kata kata k
	-55.0		-												
	-65.0														
	Disp	Center	4.9650	GHz				#Chan D	et: Av	erage, #Of	fs Det: Ave	rage			Span 250.51 MHz 2001 pts
	2 Tab	le		•		Power		Spectru							
						28.54 dBm /	40 MHz		13.5	50 dBm					_
			-	Start F	Tea	Stop Freg	Integ E	h W	Bm	Lower		dBm	Upper ∆Limit(dB)		- 1
			-).0 Hz	22.50 MHz	510.0			(()		-
) MHz	25.00 MHz	510.0		33.36	(-21.21					
) MHz	27.50 MHz	510.0		32.16	(-14.33					
			-	50.00	MHz	50.00 MHz 125.0 MHz	510.0 510.0		-39.75 -41.18	(-5.15 (-12.68					Local
) MHz	150.0 MHz	390.0			(-12.00			(-11.07)		
	<u> </u>			12.50	MH7	15.00 MHz	1 000	MH7		(()		
		5	C		?	Jan 02, 2024 10:39:57		1							



Test specification:	Section 90.210, Radiated s	ourious emissions	
Test procedure:	47 CFR, Sections 2.1053 and 90	0.210(m); TIA/EIA-603-A, Sectio	on 2.2.12
Test mode:	Compliance	Verdict:	PASS
Date(s):	04-Jan-24	verdict:	PASS
Temperature: 24 °C	Relative Humidity: 47 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

7.4 Radiated spurious emission measurements

7.4.1 General

This test was performed to measure radiated spurious emissions from the EUT. Specification test limits are given in Table 7.4.1.

Table 7.4.1 Radiated spurious emission test limits

Frequency,	EIRP of spurious,	Equivalent field strength limit @ 3m,
MHz	dBm	dB(µV/m)**
0.09 – 10th harmonic*	-25	72.4

* - Excluding the in band emission within ± 150 % of the authorized bandwidth from the carrier. The high frequency is the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower

** - Equivalent field strength limit was calculated from maximum allowed ERP of spurious as follows: $E=sqrt(30 \times P \times 1.64)/r$, where P is ERP in Watts, 1.64 is numeric gain of ideal dipole and r is antenna to EUT distance in meters

7.4.2 Test procedure for spurious emission field strength measurements in 9 kHz to 30 MHz band

- 7.4.2.1 The EUT was set up as shown in Figure 7.4.1, energized and the performance check was conducted.
- **7.4.2.2** The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360⁰ and the measuring antenna was rotated around its vertical axis.
- **7.4.2.3** The worst test results (the lowest margins) were recorded in Table 7.4.2 and shown in the associated plots.

7.4.3 Test procedure for spurious emission field strength measurements above 30 MHz

- 7.4.3.1 The EUT was set up as shown in Figure 7.4.2, energized and the performance check was conducted.
- **7.4.3.2** The specified frequency range was investigated with antenna connected to spectrum analyzer. To find maximum radiation the turntable was rotated 360^o and the measuring antenna height was swept from 1 to 4 m in both, vertical and horizontal, polarizations.
- 7.4.3.3 The worst test results (the lowest margins) were recorded in Table 7.4.2 and shown in the associated plots.



Test specification:	Section 90.210, Radiated s	purious emissions	
Test procedure:	47 CFR, Sections 2.1053 and 9	0.210(m); TIA/EIA-603-A, Section	on 2.2.12
Test mode:	Compliance	Verdict:	PASS
Date(s):	04-Jan-24	verdict:	PASS
Temperature: 24 °C	Relative Humidity: 47 %	Air Pressure: 1018 hPa	Power: 48 VDC
Remarks:			

Figure 7.4.1 Setup for spurious emission field strength measurements in 9 kHz to 30 MHz band

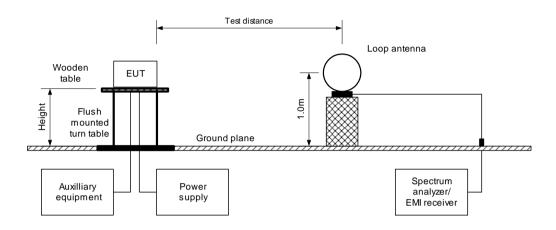
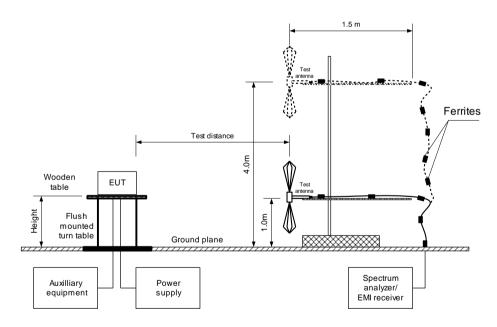


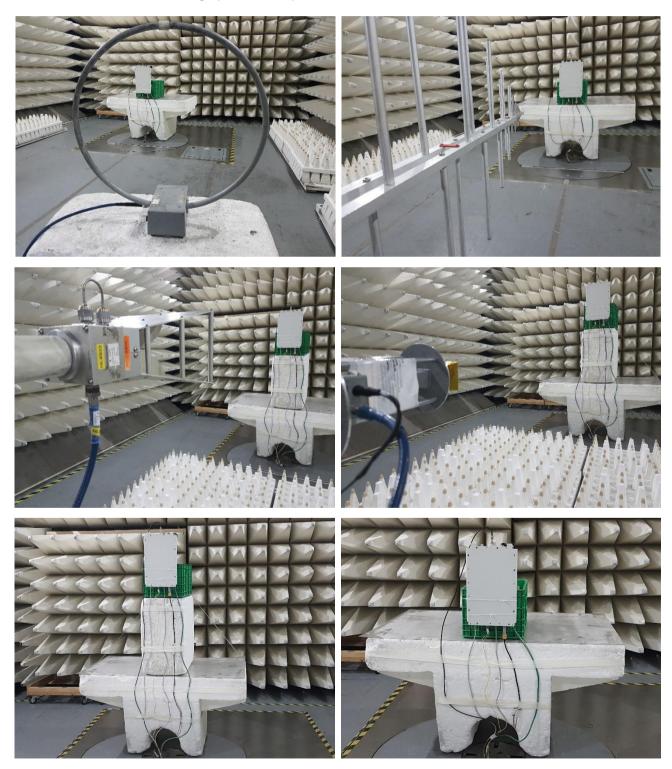
Figure 7.4.2 Setup for spurious emission field strength measurements above 30 MHz





Test specification:	Section 90.210, Radiated spurious emissions				
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-A, Section 2.2.12				
Test mode:	Compliance	Verdict:	PASS		
Date(s):	04-Jan-24	verdict:	PASS		
Temperature: 24 °C	Relative Humidity: 47 %	Air Pressure: 1018 hPa	Power: 48 VDC		
Remarks:			·		

Photograph 7.4.1 Setup for radiated emission measurements





Test specification:	cation: Section 90.210, Radiated spurious emissions					
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-A, Section 2.2.12					
Test mode:	Compliance	Verdict:	PASS			
Date(s):	04-Jan-24	verdict:	PASS			
Temperature: 24 °C	Relative Humidity: 47 %	Air Pressure: 1018 hPa	Power: 48 VDC			
Remarks:						



Test specification: Section 90.210, Radiated spurious emissions					
Test procedure:	47 CFR, Sections 2.1053 and 90.210(m); TIA/EIA-603-A, Section 2.2.12				
Test mode:	Compliance	Verdict:	PASS		
Date(s):	04-Jan-24	verdict:	PASS		
Temperature: 24 °C	Relative Humidity: 47 %	Air Pressure: 1018 hPa	Power: 48 VDC		
Remarks:	-	· ·			

Table 7.4.2 Spurious emission field strength test results

ASSIGNED FREQUENCY RANGE: TEST DISTANCE: TEST SITE: INVESTIGATED FREQUENCY RANGE: DETECTOR USED: TEST ANTENNA TYPE: MODULATION:				4940.0 – 4990.0 MHz 3 m Semi anechoic chamber 0.009 – 40000 MHz Peak Active loop (9 kHz – 30 MHz) Biconilog (30 MHz – 1000 MHz) Horn antenna (above 1000MHz) QPSK (worst case variant)				
MODULATING SIGNAL:				PRBS				
TRANSMITTER OUTPUT POWER SETTINGS:				Maximum				
CHANNEL BAN		10 MHz***	k		_			
Frequency, MHz	Field strength, dB(µV/m)	Limit****, dB(µV/m)	Margin, dB*	RBW, kHz	Antenna polarization	Antenna height, m	Turn-table position**, degrees	

No emissions were found

*- Margin = Field strength of spurious – calculated field strength limit.

**- EUT front panel refers to 0 degrees position of turntable.

*** - The 10 MHz channel bandwidth is configuration with the greatest aggregate power.

Reference numbers of test equipment used

HL 0446	HL 3230	HL 3903	HL 4015	HL 4933	HL 4956	HL 5112	HL 5288
HL 5902	HL 7585						

Full description is given in Appendix A.