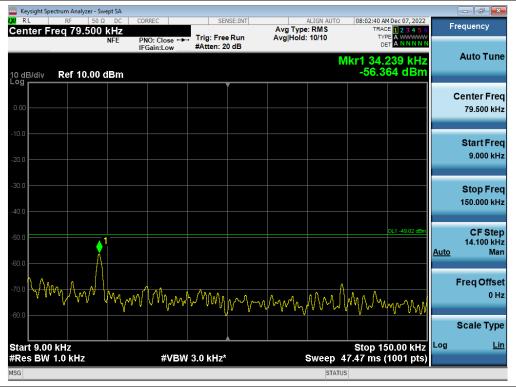


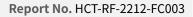


### Antenna 0 / 9 kHz ~ 150 kHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM



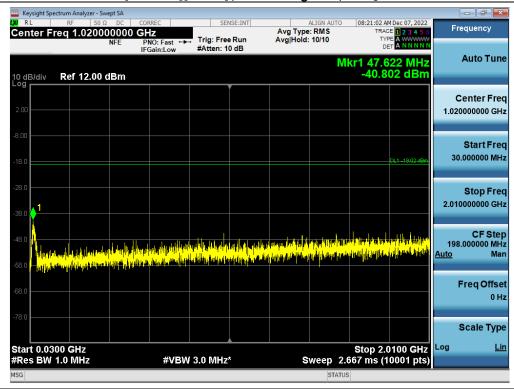
### Antenna 3 / 150 kHz ~ 30 MHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 64QAM

		ctrum Anal										_	
Cent		RF red 15	50 Ω	DC CO 00 MHz	RREC	SEI	NSE:INT	Avg Type	ALIGN AUTO		M Dec 07, 2022	F	requency
CON		cq io		NFE PI	NO:Wide 🕶	Trig: Free #Atten: 3		Avg Hold		TY			
	_			IF	Gain:Low	#Atten: 5	4 0D		D.		29 MHz		Auto Tune
10 dE	1/41	Dof 1	0.00 d	Bm					IVI	-46.4	60 dBm		
Log	5/017	Kelli	0.00 u	ыш		,,	·						
													Center Freq
0.00												1	5.075000 MHz
-10.0													Start Freq
-20.0													150.000 kHz
-20.0													
-30.0													
00.0													Stop Freq
-40.0											DL1 -39.02 dBm	3	0.000000 MHz
								🔶 '					
-50.0					li e un la	alitalistation and	الله بارا برايا		للأفاط بالراب المرا		a alth be reduced		CF Step 2.985000 MHz
						i dano, andita da		والمراجع والتواصل				Auto	Man
-60.0		100 10 11	10.0	ակար գեծ հ	I to With the	in a dini			1.1.0.0		1.1		
													Freq Offset
-70.0													0 Hz
-80.0													Scale Type
													Scale Type
	t 150									Stop 3	0.00 MHz	Log	<u>Lin</u>
#Res	s BW	10 kHz			#VBW	30 kHz*			Sweep 1	19.6 ms (	(6001 pts)		
MSG									STATU	S			



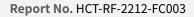


### Antenna 2 / 30 MHz ~ Low Edge – 100 MHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM



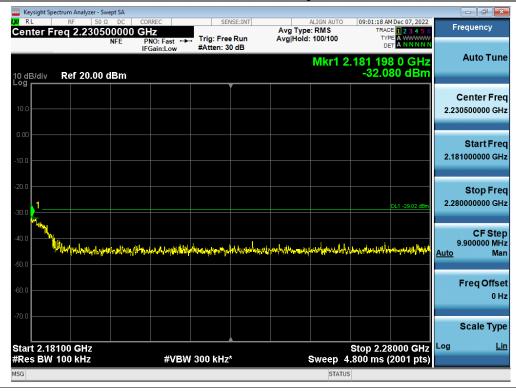
### Antenna 0 / Low Edge – 100 MHz ~ Low Edge / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

	ectrum Analyzer - S									_	
Center F	req 2.0595				SE:INT	Avg Type		TRA	M Dec 07, 2022	Fr	equency
		NFE	PNO: Fast ↔ FGain:Low	↓ Trig: Free #Atten: 30		Avg Hold		□ 2.107 51			Auto Tune
10 dB/div Log	Ref 20.00	dBm						-38.4	92 dBm		
10.0											Center Freq 9500000 GHz
0.00											04
-10.0										2.01	Start Freq 0000000 GHz
-20.0									DL1 -29.02 dBm	2.10	Stop Freq 9000000 GHz
-30.0 -40.0	Renow which the best	Jalo mar and Middle and	und the line out the se	uninitan Marillu	ANNINAL	human the house have been a	mogradium	hal all the states	<b>Å</b>	9 <u>Auto</u>	CF Step 9.900000 MHz Man
-50.0											
-60.0											Freq Offset 0 Hz
-70.0											Scale Type
Start 2.01 #Res BW			#VBW	300 kHz*			Sween		0900 GHz (2001 pts)	Log	<u>Lin</u>
MSG							STAT		()		

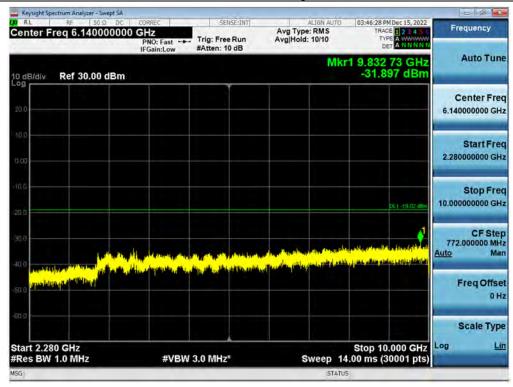


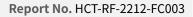


### Antenna 0 / High Edge ~ High Edge + 100 MHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM



### Antenna 2 / High Edge + 100 MHz ~ 10 GHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM







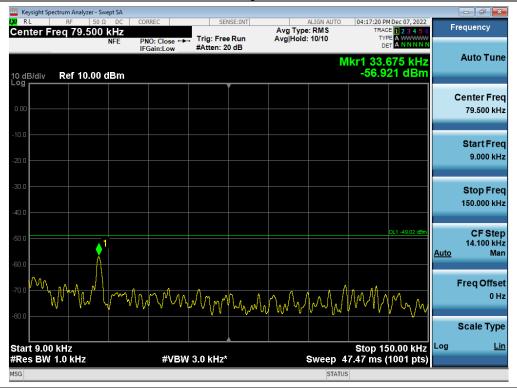
### Antenna 2 / 10 GHz ~ 26.5 GHz / NR n66 5M 1 Carrier + NR n66 10M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / QPSK







### Antenna 0 / 9 kHz ~ 150 kHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / QPSK

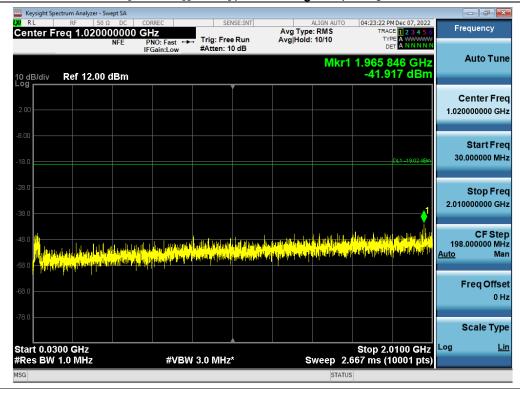


### Antenna 2 / 150 kHz ~ 30 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 256QAM

	t Spectrum Analyzer - S										
LXI RL	RF 50 Freq 15.075		RREC	SEN	SE:INT	Avg Type	ALIGN AUTO		M Dec 07, 2022	F	requency
Center		NFE P	NO: Wide ↔ Gain:Low	, Trig: Free #Atten: 3		Avg Hold:	10/10	ויד וס <b>kr1 17.8</b>	96 MHz		Auto Tune
10 dB/di Log	v Ref 10.00	dBm						-45.1	85 dBm		
0.00											Center Freq 5.075000 MHz
-10.0											Start Freq 150.000 kHz
-30.0									DL1 -39.02 dBm	3	Stop Freq 0.000000 MHz
-50.0	i ciu, si ciu il cui cui cui In grandi cui cui cui cui cui cui cui cui cui cu	la di na di na Na di na d							ande kan kiliset Na dika kan kan	Auto	CF Step 2.985000 MHz Man
-60.0											Freq Offset 0 Hz
-80.0											Scale Type
Start 1 #Res B	50 kHz W 10 kHz		#VBM	30 kHz*			Sween_1		0.00 MHz 6001 pts)	Log	<u>Lin</u>
MSG			<i>"</i> UDII	or NHZ			STATU		or proj		



### Antenna 0 / 30 MHz ~ Low Edge – 100 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 256QAM

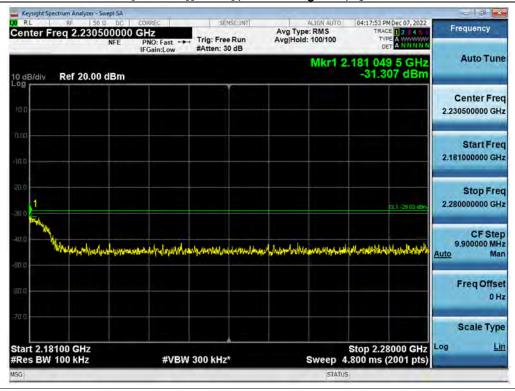


### Antenna 1 / Low Edge – 100 MHz ~ Low Edge / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 16QAM

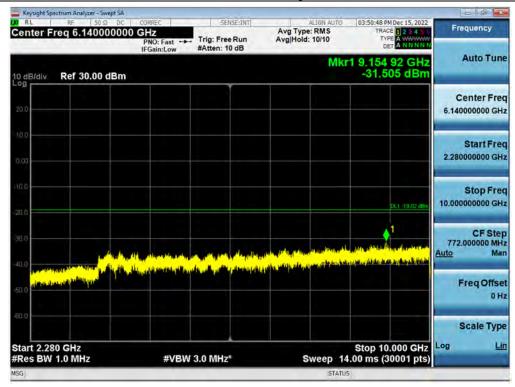
	ectrum Analyzer - S										- 🕫 🗙
Center F	RF 50 req 2.0595		DRREC	SEN	ISE:INT	Avg Type	ALIGN AUTO		HDec 07, 2022	Fre	equency
		NFE	PNO: Fast ↔ FGain:Low	, Trig: Free #Atten: 30		Avg Hold		TYP			Auto Tune
10 dB/div Log	Ref 20.00	dBm						-32.0	06 dBm		
										с	enter Freg
10.0											500000 GHz
0.00											_
0.00											Start Freq
-10.0										2.010	000000 GHz
-20.0											Stop Freq
-30.0									DL1 -29.02	2.109	000000 GHz
									J.		CF Step
-40.0	Angeling Prophylapping and	ymalinter	e	and he we have	muhhha	Julia II. Martina da	lytraphar when	handrown	A M	9. <u>Auto</u>	900000 MHz Man
-50.0											
-60.0										F	req Offset
											0 Hz
-70.0											Scale Type
Start 2.01 #Res BW			#\/R\A	/ 300 kHz*	;		Sween	Stop 2.10 4.800 ms (	0900 GHz	Log	Lin
MSG	TWO MILE		~ • D •	- 000 MI12			STA		2001-pt3)		

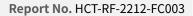


### Antenna 0 / High Edge ~ High Edge + 100 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / QPSK



### Antenna 2 / High Edge + 100 MHz ~ 10 GHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 16QAM







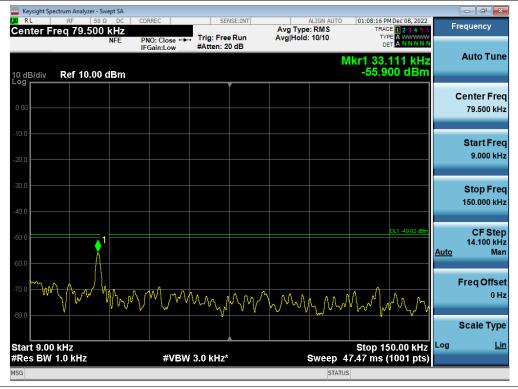
### Antenna 2 / 10 GHz ~ 26.5 GHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 16QAM







### Antenna 0 / 9 kHz ~ 150 kHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

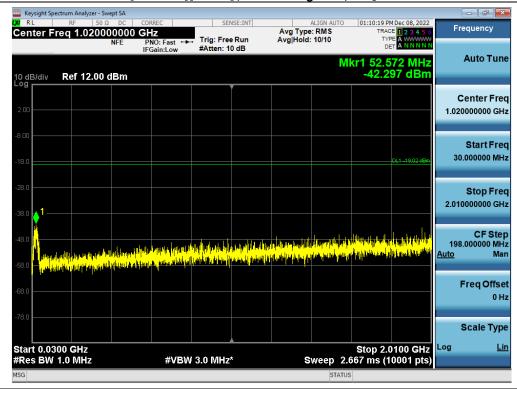


### Antenna 0 / 150 kHz ~ 30 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 64QAM

		trum Analyzer										
LXI RL Cent			οΩ DC 5000 MH	CORREC 7		NSE:INT	Avg Type	ALIGN AUTO	TRAC	Dec 08, 2022	F	requency
			NFE	PNO: Wide ↔ IFGain:Low	, Trig: Fre #Atten: 3		Avg Hold:		DE			Auto Tuno
10 dB Log r	3/div	Ref 10.0	0 dBm					M	kr1 16.9 -46.4	26 MHz 20 dBm		Auto Tune
209						Ĭ						Center Freq
0.00											1	5.075000 MHz
-10.0												
10.0												Start Freq
-20.0												150.000 kHz
-30.0												
-30.0											3	Stop Freq 0.000000 MHz
-40.0						1				DL1 -39.02 dBm	J	0.000000 10112
-50.0								aulati	it dak	here is a		CF Step
-50.0											Auto	2.985000 MHz Man
-60.0	- Allerite	a da se		and start of some				li la celu	,			man
70.0												Freq Offset
-70.0												0 Hz
-80.0												
												Scale Type
	t 150 k									0.00 MHz		<u>Lin</u>
	5 BW 1	0 kHz		#VBW	/ 30 kHz*				_	6001 pts)		
MSG								STATU	S			



### Antenna 1 / 30 MHz ~ Low Edge – 100 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

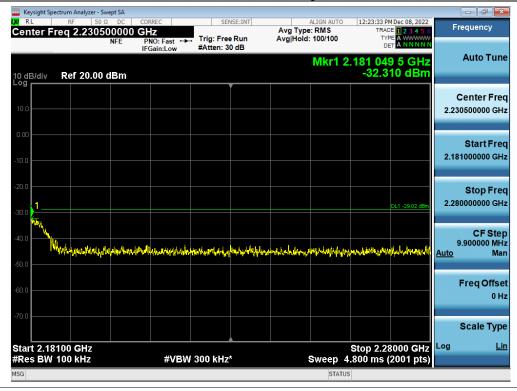


### Antenna 0 / Low Edge – 100 MHz ~ Low Edge / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

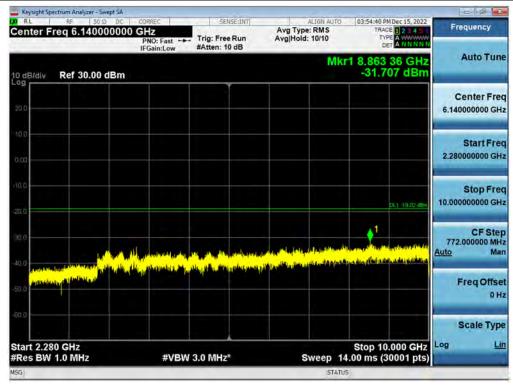
	ectrum Analyzer - S										
Center F	RF 50			SEN	ISE:INT	Avg Type	ALIGN AUTO E: RMS		M Dec 08, 2022	Fre	quency
Contor 1		NFE	PNO: Fast ↔ FGain:Low	, Trig: Free #Atten: 30		Avg Hold		DI			
10 dB/div Log	Ref 20.00	dBm					Mkr1	2.107 86 -38.2	1 5 GHz 32 dBm		Auto Tune
109										с	enter Freq
10.0										2.059	500000 GHz
0.00											
											Start Freq 000000 GHz
-10.0										2.010	000000 0112
-20.0											Stop Freq
-30.0									DL1 -29.02 dBm	2.109	000000 GHz
-30.0									1		
-40.0	المعام الم	ب المار أو ا	und an all be and a	the second second	a sali a san	a mban la a - I	مربع لرياء	a kataradi	and the about the state of the		CF Step 900000 MHz
-50.0	himungharynayyndy	MAN MARKAN	ala kanal kanal	*******	andina ning walan	evelant volumenta		w.manarata.anar.faw	Wanda	<u>Auto</u>	Man
										F	req Offset
-60.0											0 Hz
-70.0											
										S	Scale Type
Start 2.01 #Res BW			#\/R\A	/ 300 kHz*			Sweep	Stop 2.1 4.800 ms (	0900 GHz	Log	Lin
MSG	TVV KHZ		# V D V	- 000 MH2			STAT		zoor pisj		

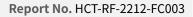


### Antenna 2 / High Edge ~ High Edge + 100 MHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / QPSK



### Antenna2 / High Edge + 100 MHz ~ 10 GHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / QPSK

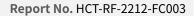






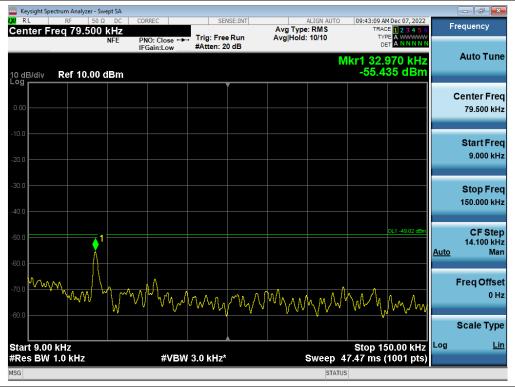
### Antenna 2 / 10 GHz ~ 26.5 GHz / DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / QPSK







### Antenna 0 / 9 kHz ~ 150 kHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 256QAM



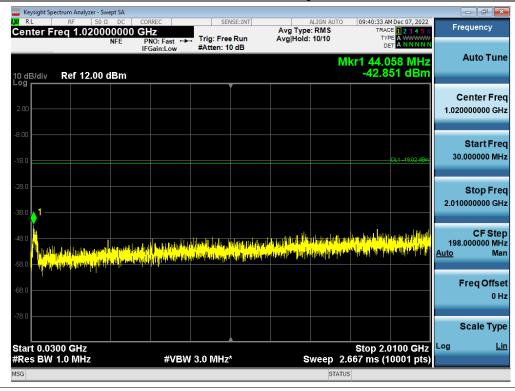
### Antenna 0 / 150 kHz ~ 30 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 256QAM

	pectrum Analyzer - S										
Center	RF 50 Freq 15.075		RREC		SE:INT	Avg Type		TRAC	M Dec 07, 2022	Fr	equency
10 dB/div	Ref 10.00	NFE P	NO: Wide ↔ Gain:Low	, Trig: Free #Atten: 34		Avg Hold		DI 1011 International Internat	43 MHz 21 dBm		Auto Tune
	Kei 10.00										Center Freq 5.075000 MHz
-10.0											Start Freq 150.000 kHz
-30.0									DL1 -39.02 dBm	30	Stop Freq 0.000000 MHz
-50.0 14 4 4	ten politika (		llan Ulaka lan Kiti ka			nder deliner pr		i pole altricoviti Angle altricoviti		Auto <sup>2</sup>	CF Step 2.985000 MHz Man
-70.0											Freq Offset 0 Hz
-80.0								Stop 3	0.00 MHz	Log	Scale Type <u>Lin</u>
#Res BV			#VBW	30 kHz*			Sweep	119.6 ms (	6001 pts)		
MSG							STATU				





### Antenna 0 / 30 MHz ~ Low Edge – 100 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 64QAM

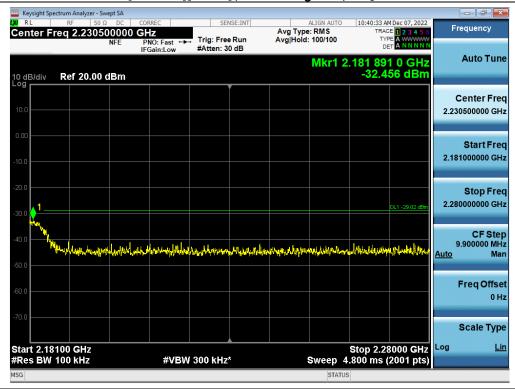


### Antenna 3 / Low Edge – 100 MHz ~ Low Edge / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 16QAM

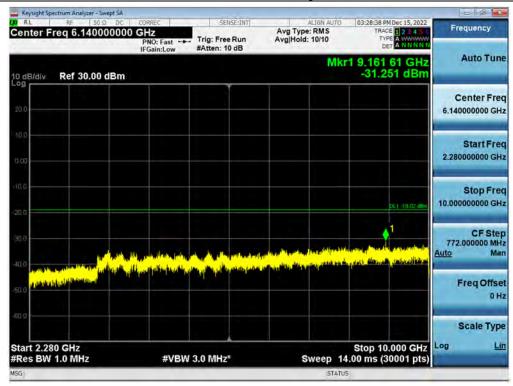
	ectrum Analyzer -										r X
Center F	req 2.059		CORREC CHZ		SE:INT	Avg Typ		TRAC	M Dec 07, 2022	Frequer	псу
		NFE	PNO: Fast ++ IFGain:Low	, Trig: Free #Atten: 3	e Run 0 dB	Avg Hold	: 100/100	D			
							Mkr1	2.108 40	6 0 GHz	Auto	Tune
10 dB/div Log	Ref 20.00	0 dBm						-40.6	11 dBm		
										Cente	er Freq
10.0										2.0595000	00 GHz
0.00											
											rt Freq
-10.0										2.0100000	00 GHz
-20.0											
-20.0										Sto 2.1090000	p Freq
-30.0									DL1 -29.02 dBm	2.1090000	00 9112
(0.0									1	CI	F Step
-40.0	and had and	Markey with the second	And the block	Phatala dark Marta	mathytradamty	and at mind then a	www.Halalanin	well we have been	and shamanak	9.9000 Auto	00 MHz Man
-50.0		the star free	and the second of the second			also a contra	a shi na sa si	194 9 10 Q 1 Q 1 Q 1	- · · ·		Man
										Freq	Offset
-60.0											0 Hz
-70.0											
										Scale	е Туре
Start 2.01								Stop 2.1	0900 GHz	Log	<u>Lin</u>
#Res BW	100 kHz		#VBW	300 kHz	*			4.800 ms	2001 pts)		
MSG							STAT	rus			



### Antenna 0 / High Edge ~ High Edge + 100 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / 16QAM



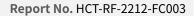
### Antenna 2 / High Edge + 100 MHz ~ 10 GHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / QPSK





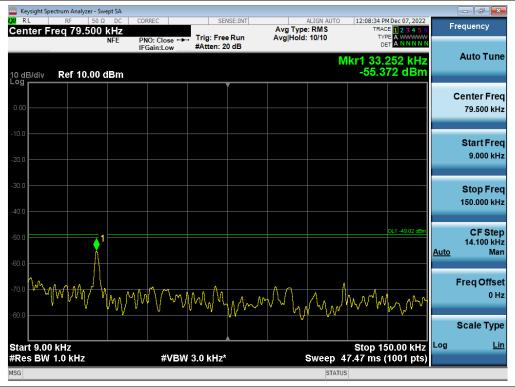
### Antenna 2 / 10 GHz ~ 26.5 GHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][1C+2C] / Non-Contiguous / QPSK







### Antenna 0 / 9 kHz ~ 150 kHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM

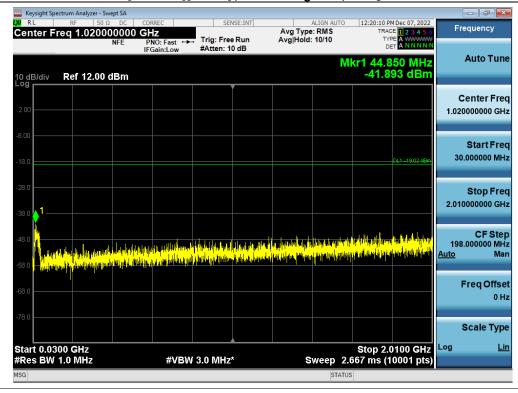


### Antenna 2 / 150 kHz ~ 30 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

	pectrum Analyzer - S										
Center F	RF 50 req 15.075		ORREC		NSE:INT	Avg Type		TRAC	M Dec 07, 2022	Fi	requency
		NFE	PNO: Wide ↔ FGain:Low	, Trig: Free #Atten: 3		Avg Hold:		D			Auto Tune
10 dB/div Log	Ref 10.00	dBm						/kr1 12.0 -46.5	02 dBm		
					Í					(	Center Freq
0.00										18	5.075000 MHz
-10.0											
											Start Freq 150.000 kHz
-20.0											
-30.0											Stop Freq
-40.0									DL1 -39.02 dBm	30	0.000000 MHz
				1							CF Step
-50.0 <b>1011.</b>	ing a da ki ka liti a Nga nga nga nga nga nga nga nga nga nga n	del polo de la co	a della de canalisada da			<u>inden de alte</u>		li dinin della		2	2.985000 MHz
-60.0		teter de la constante		adial A. Maria	ի հերհանե	la di anti alla di alla	d officer a selfe	te al la calla de la calla	atter fillering the	Auto	Man
70.0											Freq Offset
-70.0											0 Hz
-80.0											Scale Type
Start 150 #Res BW			#VBW	30 kHz*			Sweep	Stop 3 119.6 ms (	0.00 MHz 6001 pts)	Log	<u>Lin</u>
MSG							STATI				



### Antenna 2 / 30 MHz ~ Low Edge – 100 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM

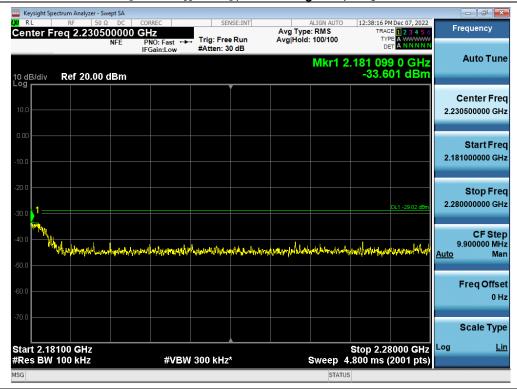


### Antenna 0 / Low Edge – 100 MHz ~ Low Edge / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / QPSK

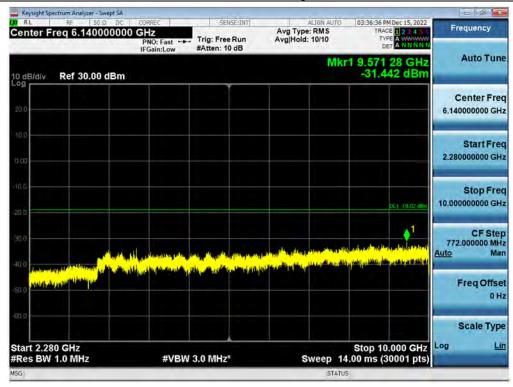
			alyzer - Swe										
Cen		RF rea.2.	50 Ω 05950		GHZ	SEI	NSE:INT	Avg Type	ALIGN AUTO E: RMS		M Dec 07, 2022	Fr	equency
				NFE	PNO: Fast ↔ IFGain:Low	Atten: 3		Avg Hold	: 100/100				
									Mkr1	2.050 83	7 5 GHz		Auto Tune
10 dE Log I	3/div	Ref 2	20.00 d	Bm					1	-40.0	59 dBm		
												c	Center Freq
10.0												2.05	9500000 GHz
0.00													
0.00													Start Freq
-10.0												2.01	0000000 GHz
-20.0													Stop Freq
-30.0											DL1 -29.02 dBm	2.10	9000000 GHz
-30.0						.1							
-40.0						<b>•</b>						c	CF Step 900000 MHz
	North Mark	intranch	s-luinterent	www.	en weither where	W MILLING AND AND	d have been been	perifyer adjust the	an appropriate May	hopen signification as	happener and here and	Auto	Man
-50.0													
-60.0												1	Freq Offset
													0 Hz
-70.0													
													Scale Type
		000 G								Stop 2.1	0900 GHz	Log	<u>Lin</u>
	s BW	100 ki	IZ		#VBV	V 300 kHz	*			4.800 ms	2001 pts)		
MSG									STA	TUS			



### Antenna 0 / High Edge ~ High Edge + 100 MHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 16QAM

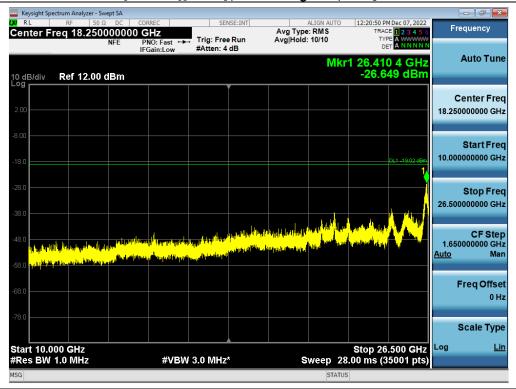


### Antenna 2 / High Edge + 100 MHz ~ 10 GHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM



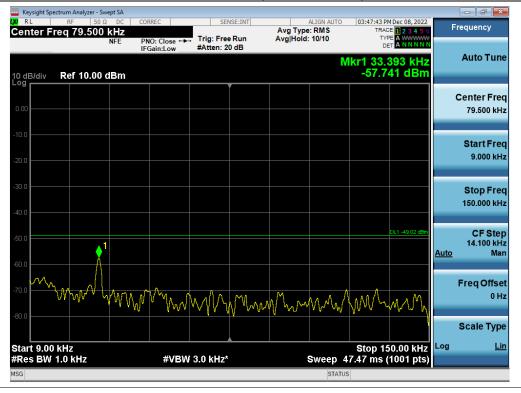


### Antenna 2 / 10 GHz ~ 26.5 GHz / DSS B66 10M 1 Carrier + DSS B66 10M 1 Carrier+ DSS B66 15M 1 Carrier [3 Carrier][2C+1C] / Non-Contiguous / 256QAM





# Antenna 0 / 9 kHz ~ 150 kHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 256QAM

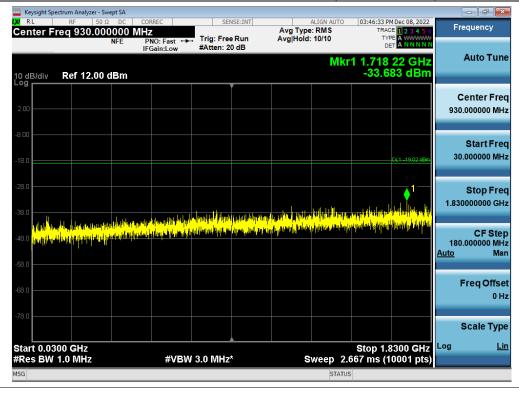


# Antenna 2 / 150 kHz ~ 30 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 256QAM

🔤 Keysight Spectrum Analyzer - Swept SA							- 6 <b>x</b>
RL RF 50 Ω DC     Center Freq 15.075000 M	CORREC	SENSE:INT	Avg Type		TRACE	Dec 08, 2022	Frequency
NFE	PNO: Wide +++ Trig:	Free Run en: 34 dB	Avg Hold:	10/10	TYPE DE1	A WWWWW A N N N N N	
	in Gameon			М	kr1 29.7	11 MHz	Auto Tune
10 dB/div Ref 10.00 dBm						23 dBm	
Log							Center Freq
0.00							15.075000 MHz
-10.0							Start Freq
							150.000 kHz
-20.0							
-30.0							Stop Freq
					, in the second s	0L1 -39.02 dBm	30.000000 MHz
-40.0						<u>1-135.02</u>	
							CF Step
	and a little state of the state						2.985000 MHz Auto Man
-60.0	a di kana kana di sa di sa di sa sa	Male of March 1 and	Alternit all de l'un	(Aller Law)	մ մ. է մ	1997 B. 1998	Auto
							Freq Offset
-70.0							0 Hz
-80.0							
-00.0							Scale Type
					0.0		Log <u>Lin</u>
Start 150 kHz #Res BW 10 kHz	#VBW 30 ki	tz*		Sweep 1	Stop 30 19.6 ms (6		
MSG				STATU			



Antenna 0 / 30 MHz ~ PCS Low Edge – 100 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier+ DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 64QAM

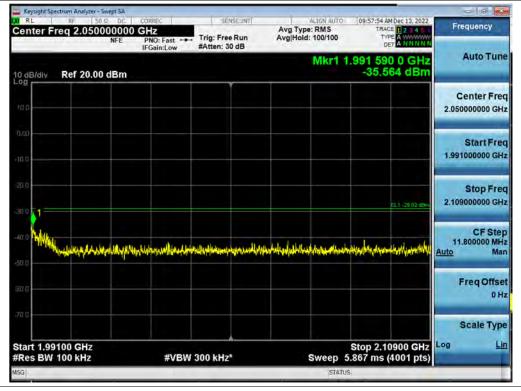


Antenna 2 / PCS Low Edge – 100 MHz ~ PCS Low Edge / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 256QAM

		n Analyzer - S										
🗶 RL		r⊧ 50 1.8795	Ω DC	CORREC GHZ	SEN	SE:INT		ALIGN AUTO		M Dec 08, 2022	Fr	equency
Cent		1.0730	NFE	PNO: Fast H IFGain:Low	⊢ Trig: Free #Atten: 3		Avg Hold	: 100/100	TY D			Auto Tune
10 dB/ Log r	/div R	ef 20.00	dBm					Mkr1	1.928 90 -35.3	1 0 GHz 06 dBm		Auto Tune
					)						c	Center Freq
10.0											1.87	9500000 GHz
0.00												
											1 93	Start Freq 0000000 GHz
-10.0											1.00	0000000 GH2
-20.0												Stop Freq
-30.0 =										DL1 -29.02 dFm	1.92	9000000 GHz
										L K		
-40.0 🖋	the specific production of the second se	an ang ang ang ang ang ang ang ang ang a	and the state of the	norther the state of the state	eren pyperter and	new states	uppersonal and the second s	Musi Man	water and the state of the stat	Nonin and a service	ç	CF Step 900000 MHz
-50.0											<u>Auto</u>	Man
												Freq Offset
-60.0												0 Hz
-70.0												
												Scale Type
	1.83000							0		2900 GHz	Log	<u>Lin</u>
	BW 10	J KHZ		#VBI	V 300 kHz				4.800 ms	(2001 pts)		
MSG								STA	105			

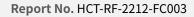


Antenna 3 / PCS High Edge ~ AWS Low Edge / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 64QAM



Antenna 0 / AWS High Edge ~ AWS High Edge + 100 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier+ DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / QPSK

ept SA DC CORREC SENSE:INTI ALIGN AUTO	09:51:39 AM Dec 13, 2022
D0000 GHz         Avg Type: RMS           NFE         PNO: Fast +++           IFGain:Low         #Atten: 30 dB	
	2.181 148 5 GHz Auto Tun -32.132 dBm
	Center Fre 2.230500000 GH
	Start Fre 2.181000000 Gi
	Stop Fre 2.280000000 Gi
ระการกับระสารการการไปการที่หนึ่งหนึ่งหนายหารให้เราะระหารกรุ่งการเป็นที่ไปการการการกับการและหรือเหรือการการการก	CF Ste 9.900000 M Auto M
	Freq Offs 01
	Stop 2.28000 GHz
#VBW 300 kHz* Sweep 4	1.800 ms (2001 pts)

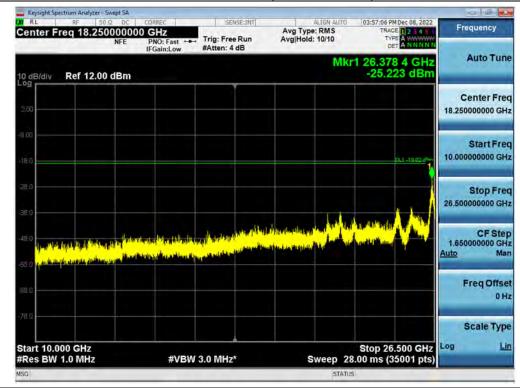


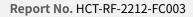


Antenna 2 / AWS High Edge + 100 MHz ~ 10 GHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier+ DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / QPSK

Keysight Spectrum Analyzer - Si	wept SA					0 0 🕺
Center Freq 6.1400	12 OC	CORREC GHZ PNO: Fast IFGain:Low	SENSE:INT Trig: Free Run #Atten: 24 dB	Avg Type: RMS Avg Hold: 10/10	09:55:17 AM Dec 13, 2022 TRACE 2 3 4 5 TYPE A WWWW DET A N N N N	Frequency
10 dB/div Ref 20.00	dBm			Mk	r1 9.685 024 GHz -23.435 dBm	
10.0						Center Freq 6.140000000 GHz
00.0 +10 0						Start Freq 2.280000000 GHz
-20.0	dalaran		rectory to the other of the sources	iere a dillari di a chalisti	011-1907 1 m	Stop Freq 10.000000000 GHz
-30 0 -40 0 -50 0	ANICAS	No. A diama berall	la se el composito de composito de serie		a na strand i na strand na strand i na strand i na st	CF Step 772.000000 MHz <u>Auto</u> Man
46a a						Freq Offset 0 Hz
70 Q						Scale Type
Start 2.280 GHz #Res BW 1.0 MHz		#VBW	3.0 MHz*	Sweep	Stop 10.000 GHz 10.67 ms (20001 pts)	Log <u>Lin</u>
MSG					ATUS	

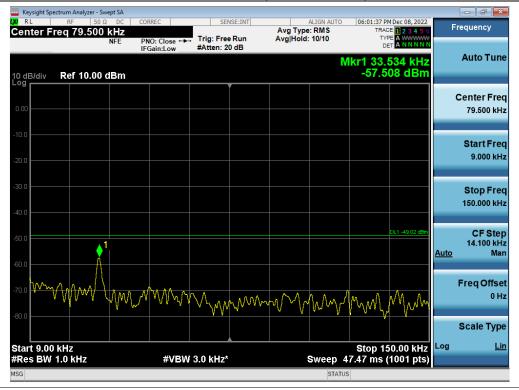
Antenna 2 / 10 GHz ~ 26.5 GHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 256QAM



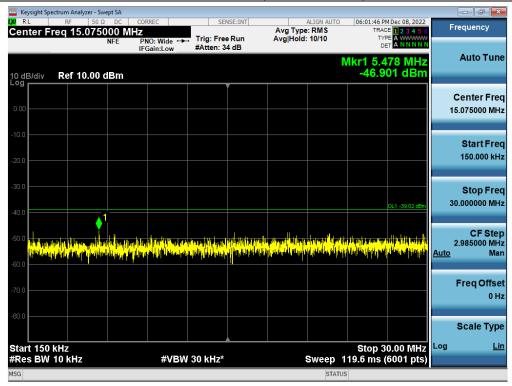


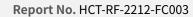


# Antenna 0 / 9 kHz ~ 150 kHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 16QAM



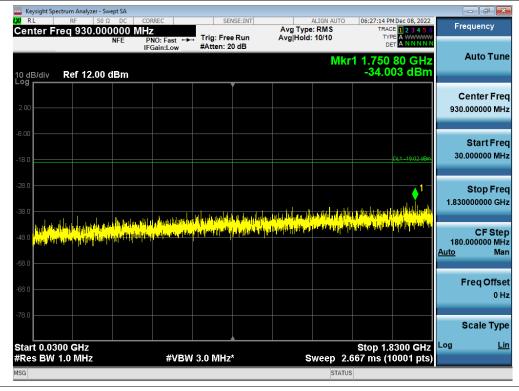
# Antenna 0 / 150 kHz ~ 30 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 16QAM







Antenna 3 / 30 MHz ~ PCS Low Edge – 100 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / QPSK

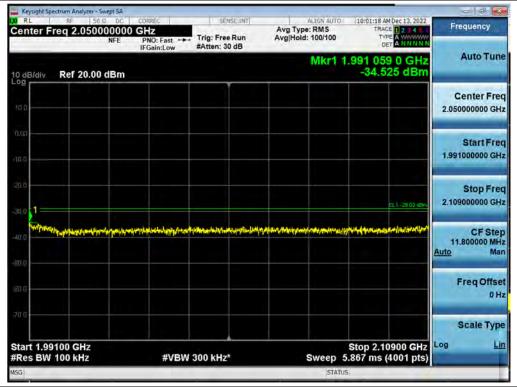


Antenna 1 / PCS Low Edge – 100 MHz ~ PCS Low Edge / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 16QAM

🔤 Keysight Spe	ectrum Analyzer - S										
Center E	req 1.8795	Ω DC	CORREC CH7	SEN	ISE:INT	Avg Type	ALIGN AUTO		M Dec 08, 2022	Fr	equency
	req 1.0795	NFE	PNO: Fast ++ IFGain:Low	Trig: Free #Atten: 30		Avg Hold	: 100/100	TY D			Auto Tune
10 dB/div Log	Ref 20.00	dBm						-32.5	15GHz 71dBm		
										c	enter Freq
10.0										1.87	9500000 GHz
0.00											
										4.02	Start Freq 0000000 GHz
-10.0										1.85	000000 GHZ
-20.0											Stop Freq
~~~~									DL1 -29.02 d 1	1.92	9000000 GHz
-30.0											
-40.0	allet Martin and Martin	in the Manifed and a st	nahaliyahahahahamanan	halun muhah.	and the second second	Lawrill mut the state	المراجع والمراجع	unumuhudanu	Julius M	9 <u>Auto</u>	CF Step 900000 MHz. Man
-50.0	4 9 Y 1 - 9 4 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	41 44 VVV	ann a bhuda , a ta Baar	and a start of the second	a hike base	and the design of the second	· FRANK P	•   -   • • • • •			
-60.0										- 1	Freq Offset
											0 Hz
-70.0											Scale Type
Start 1.83 #Res BW			#VBW	300 kHz			Sween	Stop 1.9 4.800 ms	2900 GHz (2001 pts)	Log	<u>Lin</u>
MSG							STATU		(Line pro)		



Antenna 0 / PCS High Edge ~ AWS Low Edge / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 16QAM

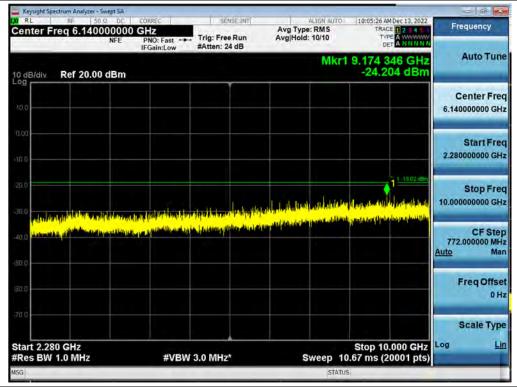


Antenna 0 / AWS High Edge ~ AWS High Edge + 100 MHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM

	10:01:54 AM Dec 13, 2022	ALIGN AUTO	SE:INT	SEN	CORREC	Ω DC		RL
Frequency	TRACE 2 3 4 5 1 TYPE A WWWWW DET A NNNNN	Type: RMS Hold: 300/300		Trig: Free #Atten: 3	PNO: Fast	500000 NFE	req 2.2305	enter F
Auto Tun	.181 742 5 GHz -32.805 dBm	Mkr1 2			in Guint.cow	dBm	Ref 20.00	0 dB/div
Center Fre 2.230500000 GH								10.0
Start Fre 2.181000000 GF								0.00 10.0
Stop Fro 2.280000000 Gi	01.1-29.02 d8m							a a <b>a</b>
CF Ste 9.900000 M Auto M	abrahman mana departmenter anti-	and the second	ويعقريك وارتضاعه	stylinger.	s-1944440-19-10-lan	ether the work of the	Kouhanna	11 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Freq Offs 01								50.0
Scale Typ								/a.a.
Log L	Stop 2.28000 GHz .800 ms (2001 pts)	Sweep 4		300 kHz	#VBW		100 GHz 100 kHz	tart 2.18 Res BW
	i	STATUS						SG

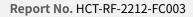


Antenna 2 / AWS High Edge + 100 MHz ~ 10 GHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM



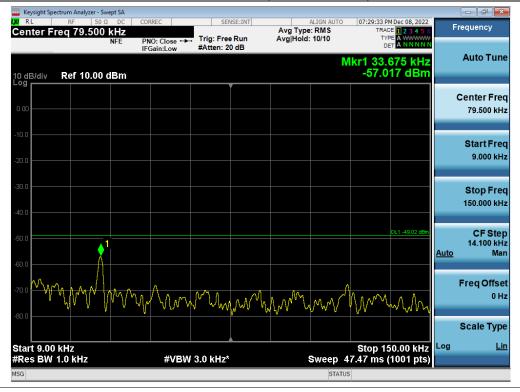
Antenna 2 / 10 GHz ~ 26.5 GHz / LTE B2 5M 1 Carrier + LTE B2 5M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + DSS B66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / QPSK





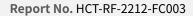


### Antenna 0 / 9 kHz ~ 150 kHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 64QAM



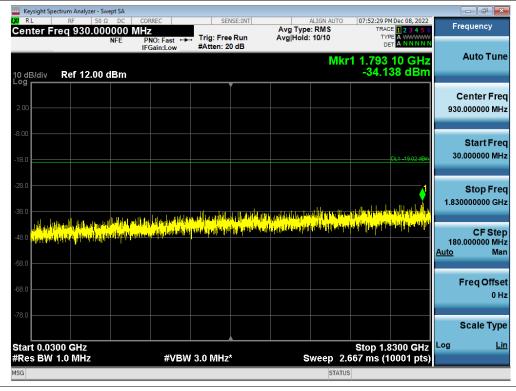
### Antenna 0 / 150 kHz ~ 30 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 16QAM

	ight Spec	ctrum Ana	ılyzer - Sw	ept SA									
Cent	er Er	RF eq. 15	50 Ω	DC DOO MH	CORREC	SE	NSE:INT		ALIGN AUT		M Dec 08, 2022	Frequen	су
Cont		cq re		NFE	PNO: Wide			Avg Hold	: 10/10	TY	PE A WWWWWW		
					IFGalli.LOw	#Attent	448			Mkr1 21.9	90 MHz	Auto	Tune
10 dB/	div	Ref 1	0.00 0	lBm						-45.7	23 dBm		
							Ĭ					Conto	r Erog
0.00												Center 15.07500	
													• • • • • •
-10.0												Stor	t Freq
													00 kHz
-20.0													
-30.0												Stor	Erog
												30.00000	Freq
-40.0									1		DL1 -39.02 dBm		
										( L	1	CF	Step
-50.0											an a	2.98500	0 MHz
-60.0		a a ser a	<u>a da hada</u>	N <sup>IN</sup> PORT	deb tradit a	and and a surpline	<b>Matter</b>	a shekara a sa	a da bara	uti li Antoine andala.	a sa ang ang ang ang ang ang ang ang ang an	<u>Auto</u>	Man
												Front	
-70.0												FreqC	0 Hz
-80.0												Scale	Type
Start #Res			,		#\/	BW 30 kHz*			Sween	Stop 3 119.6 ms (	0.00 MHz	Log	Lin
#RCS					#V	DW JU KHZ			SWEED		(ooor pis)		
													_





Antenna 0 / 30 MHz ~ PCS Low Edge – 100 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 16QAM

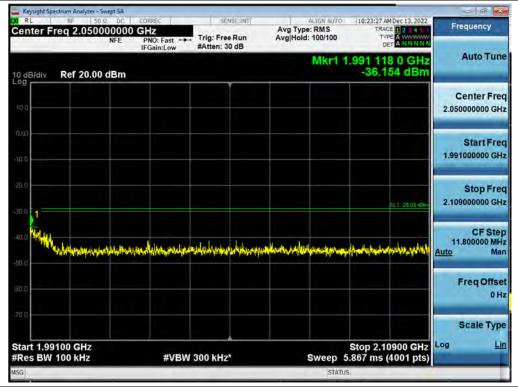


Antenna 3 / PCS Low Edge – 100 MHz ~ PCS Low Edge / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 256QAM

	um Analyzer - Swep									_	
Center Free					ISE:INT	Avg Typ		TRA	M Dec 08, 2022 CE 1 2 3 4 5 6	F	requency
		IFE PN	O: Fast ↔→ ain:Low	Trig: Free #Atten: 3		Avg Hold		[			Auto Tune
10 dB/div	Ref 20.00 di	Зm						-37.2	277 dBm		
											Center Fred
10.0										1.87	9500000 GHz
0.00											Oto at Ease
-10.0										1.83	Start Frec 0000000 GHz
-10.0											
-20.0											Stop Freq
-30.0									DL1 -29.02 dBm	1.92	9000000 GHz
											CF Step
-40.0	ity with the stars		h.Mhungudrist	halunnhyhaan	human Huba	wayparthrough	and the first and	ndeller and whether	how all we are the lot of	Auto 9	9.900000 MH2 Mar
											Freq Offse
-60.0											0 Hz
-70.0											
											Scale Type
Start 1.8300 #Res BW 10			#\/D\/	300 kHz*	 k		Cwoon		2900 GHz (2001 pts)	Log	Lir
#Res BW TU			#VDVV	300 KHZ			Sweep		(2001 pts)		

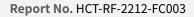


Antenna 3 / PCS High Edge ~ AWS Low Edge / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 16QAM



Antenna 0 / AWS High Edge ~ AWS High Edge + 100 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 16QAM

RL RF	er Swept SA 50 Ω DC	CORREC	SENS	E:INT		ALIGN AUTO	10:18:07 AM	1Dec 13, 2022	
center Freq 2.23	0500000 NFE	PNO: Fast	Trig: Free #Atten: 30		Avg Type Avg Hold		TVF		Frequency
0 dB/div Ref 20	.00 dBm					Mkr1 2	.181 099	0 GHz 54 dBm	Auto Tun
10.0									Center Fre 2.230500000 GH
10.0									Start Fre 2.181000000 GF
20 D 30 D 1								DL1 - 29 (02 dBm)	Stop Fre 2.280000000 G
400	hannan	nother that we have the second	rinalartion	ionalastropusi	and the second	-they then	asimum	ر مەربىرارىيەرەر مەرمەر	CF Ste 9.900000 Mi <u>Auto</u> Mi
60.0									Freq Offs 01
Start 2.18100 GHz		#VBW	/ 300 kHz*			Sweep 4	Stop 2.28	3000 GHz 2001 pts)	Scale Typ Log <u>L</u>

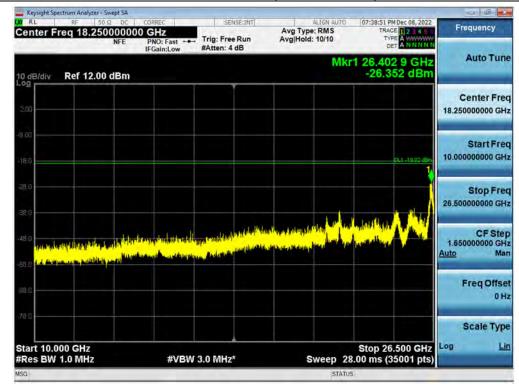




Antenna 2 / AWS High Edge + 100 MHz ~ 10 GHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / 64QAM

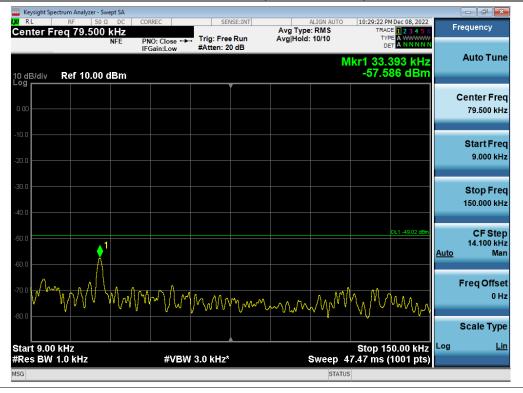
Keysight Spectrum Analyzer -						- 8 ×
Center Freq 6.1400		CORREC GHz PNO: Fast	Trig: Free Run #Atten: 24 dB	Avg Type: RMS Avg Hold: 10/10	TO 10:22:02 AM Dec 13, 2022 TRACE 1 2 3 4 5 TYPE A WWWWW DET A NNNNN	Frequency
10 dB/div Ref 20.00	dBm			M	kr1 9.262 354 GHz -23.890 dBm	
10.0						Center Freq 6.140000000 GHz
+10.0						Start Freq 2.280000000 GHz
-20.0	يون المربية	. d	lyan tiller til mit blense berege	, hy dia tephonen hi ny asta di ki	part for senting put in the senting of the senting	Stop Freq 10.000000000 GHz
-40.0 (10-21-0-0-10-10-10-0-0-10-0-0-0-0-0-0-0-	<mark>, di Jani</mark> t	A DOOR HIS AND LEVEL		in paint mining and the second se	lana kanya kany	CF Step 772.000000 MHz <u>Auto</u> Man
480 Q						Freq Offset 0 Hz
-70 0						Scale Type
Start 2.280 GHz #Res BW 1.0 MHz		#VBW	3.0 MHz*	Sweep	Stop 10.000 GHz 10.67 ms (20001 pts)	
MSG				s	TATUS .	

Antenna 2 / 10 GHz ~ 26.5 GHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 10 W/path, AWS: 30 W/path) / Interband / QPSK





### Antenna 0 / 9 kHz ~ 150 kHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM



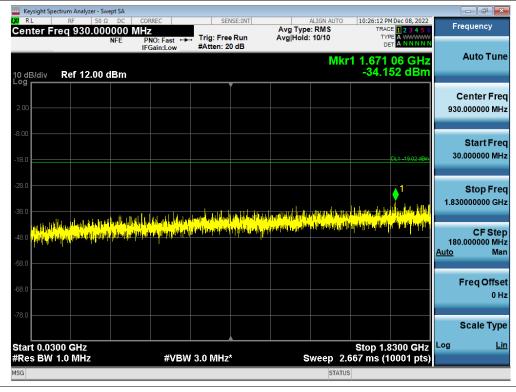
### Antenna 2 / 150 kHz ~ 30 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 64QAM

		Analyzer - Sw										
Center	Frea		DC CC	DRREC		NSE:INT	Avg Type		TRAC	M Dec 08, 2022	Fn	equency
			NFE F	PNO: Wide ↔ Gain:Low	<ul> <li>Trig: Free #Atten: 3</li> </ul>		Avg Hold	: 10/10	TYF			
								Μ	kr1 23.4	13 MHz		Auto Tune
10 dB/div Log	v Re	f 10.00 (	lBm						-45.8	19 dBm		
209					Ì	Í					c	enter Freq
0.00												.075000 MHz
-10.0												Start Freq
-20.0												150.000 kHz
-30.0												Stop Freq
-40.0									ļ	DL1 -39.02 dBm	30	.000000 MHz
-40.0								•				
-50.0	line last	اللوبين والر	a a lian litra a dat	Mahi dan Tanta d	and the ball		Alteri Ander fra fra	واللار والمراجع	l allad take in th	والمالية الربية	2	CF Step .985000 MHz
444											Auto	Man
-60.0												
-70.0											i	req Offset
												0 Hz
-80.0												
												Scale Type
Start 1										0.00 10112		Lin
#Res B	W 10 k	Hz		#VBW	30 kHz*				119.6 ms (	6001 pts)		
MSG								STATU	S			





Antenna 0 / 30 MHz ~ PCS Low Edge – 100 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / QPSK

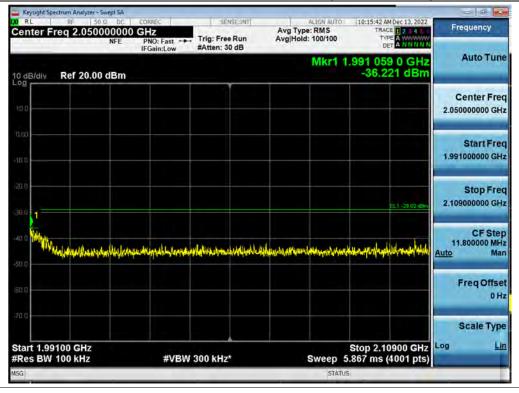


Antenna 2 / PCS Low Edge – 100 MHz ~ PCS Low Edge / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM

	ectrum Analyzer - S									
Center F	RF 50		CORREC GHZ		ISE:INT	Avg Type		TRA	M Dec 08, 2022	Frequency
		NFE	PNO: Fast ++ IFGain:Low	Trig: Free #Atten: 30		Avg Hold	100/100			
							Mkr1	1.928 40	6 0 GHz	Auto Tune
10 dB/div Log	Ref 20.00	dBm						-31.4	42 dBm	
										Center Freq
10.0										1.879500000 GHz
0.00										
0.00										Start Freq
-10.0										1.83000000 GHz
-20.0										Stop Freq
-30.0									DL1 -29.02 d	1.929000000 GHz
									MAY	0.5.04
-40.0										CF Step 9.900000 MHz
-50.0	and the material states	han the second second	and a state of the second second	Helan within	he have the second s	han the states and the states of the states	yener allow	whiteleterserviteden	Window	<u>Auto</u> Man
-50.0										
-60.0										Freq Offset 0 Hz
										0 H2
-70.0										Scale Type
Start 1.83 #Res BW			#\/R\A	300 kHz			Sween	Stop 1.9 4.800 ms	2900 GHz	Log <u>Lin</u>
#RES DW	TOO KHZ		77094	500 KHZ			Stat		(2001 pts)	

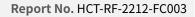


Antenna 3 / PCS High Edge ~ AWS Low Edge / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 64QAM



Antenna 0 / AWS High Edge ~ AWS High Edge + 100 MHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM

0 8	10:10:42 AM Dec 13, 2022	ALIGN AUTO	_	SENSE	CORREC	vept SA	RF 50	R L
Frequency	TRACE 2 3 4 5 1 TYPE A WWWWW DET A N N N N N	Type: RMS fold: 300/300		Trig: Free R #Atten: 30 d			q 2.2305	
Auto Tur	.181 445 5 GHz -34.145 dBm	Mkr1 2.			in dam.cow	dBm	Ref 20.00	B/div
Center Fre 2.230500000 GH								
Start Fre 2.181000000 GH								1
Stop Fre 2.28000000 GH	0L1 - 29 02 dēm							, 
CF Ste 9.900000 Mi Auto Mi	nen han a han an a	un and the second second	minte	www.	. و به افرون استرون ما مرز.	nesting the state	Manananiuman	North Market
Freq Offs 01								
Scale Typ Log <u>L</u>	Stop 2.28000 GHz .800 ms (2001 pts)	Sweep 4		300 kHz*	#VBW:		00 GHz 00 kHz	rt 2.18 s BW
		Sweep 4.		300 KH2	#VDVV	_	00 KH2	S DW

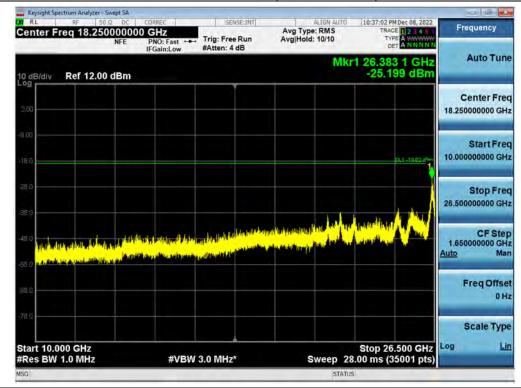




Antenna 2 / AWS High Edge + 100 MHz ~ 10 GHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / 256QAM

Keysight Spectrum Analyzer -	Swept SA					- B - X
Center Freq 6.1400	Ω DC 000000 NFE	CORREC GHz PNO: Fast	Trig: Free Run #Atten: 24 dB	Avg Type: RMS Avg Hold: 10/10	TO 10:14:18 AM Dec 13, 2022 TRACE 2 3 4 5 TYPE A WWWW DET A N N N N N	Frequency
10 dB/div Ref 20.00	dBm			Mk	r1 9.800 438 GHz -23.784 dBm	Auto Tune
10.0						Center Freq 6.140000000 GHz
+10.0						Start Freq 2.280000000 GHz
-20.0	Indiated	n	nytelow to search bed to your to	nundi dalam sa Madini	DLA -15 02 4 Man and All Andra Harris	Stop Freq 10.000000000 GHz
-40.0 M. diskin in all filling in all		an a shi an ananya	an a public of Distances of the	a portelectro ha de electro	an da y <sub>an</sub> ka kanada ka	CF Step 772.000000 MHz Auto Man
480 Q						Freq Offset 0 Hz
570.0 Start 2.280 GHz					Stop 10.000 GHz	Scale Type
#Res BW 1.0 MHz		#VBW	3.0 MHz*		10.67 ms (20001 pts)	
MSG	_		-	SI	ATUS	

Antenna 2 / 10 GHz ~ 26.5 GHz / LTE B2 5M 1 Carrier + LTE B2 10M 1 Carrier + NR n66 20M 1 Carrier + NR n66 5M 1 Carrier + NR n66 10M 1 Carrier [5 Carrier] (PCS: 20 W/path, AWS: 20 W/path) / Interband / QPSK





### **5.6. RADIATED EMISSIONS**

### **Test Requirements:**

### § 2.1053 Measurements required: Field strength of spurious radiation.

- (a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission. For this test, single sideband, independent sideband, and controlled carrier transmitters shall be modulated under the conditions specified in paragraph (c) of § 2.1049, as appropriate. For equipment operating on frequencies below 890 MHz, an open field test is normally required, with the measuring instrument antenna located in the far-field at all test frequencies. In the event it is either impractical or impossible to make open field measurements (e.g. a broadcast transmitter installed in a building) measurements will be accepted of the equipment as installed. Such measurements must be accompanied by a description of the site where the measurements were made showing the location of any possible source of reflections which might distort the field strength measurements. Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from halfwave dipole antennas.
- (b) The measurements specified in paragraph (a) of this section shall be made for the following equipment:
  - (1) Those in which the spurious emissions are required to be 60 dB or more below the mean power of the transmitter.
  - (2) All equipment operating on frequencies higher than 25 MHz.
  - (3) All equipment where the antenna is an integral part of, and attached directly to the transmitter.
  - (4) Other types of equipment as required, when deemed necessary by the Commission.

### § 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

- (a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.
- (b) Measurement procedure. Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
- (c) Alternative out of band emission limit. Licensees in this service may establish an alternative out of band emission limit to be used at specified band edge(s) in specified geographical areas, in lieu of that set forth in this section, pursuant to a private contractual arrangement of all affected licensees and applicants. In this event, each party to such contract shall maintain a copy of the contract in their station files and disclose it to prospective assignees or transferees and, upon request, to the FCC.



(d) Interference caused by out of band emissions. If any emission from a transmitter operating in this service results in interference to users of another radio service, the FCC may require a greater attenuation of that emission than

### § 27.53 Emission limits.

- (h) AWS emission limits
  - (1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.
  - (3) Measurement procedure.
    - (i) Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.
    - (ii) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the licensee's frequency block edges, both upper and lower, as the design permits.
    - (iii) The measurements of emission power can be expressed in peak or average values, provided they are expressed in the same parameters as the transmitter power.



### Test Procedures:

The measurement is performed in accordance with Section 5.5.3.2 of ANSI C63.26.

- a) Place the EUT in the center of the turntable. The EUT shall be configured to transmit into the standard non-radiating load (for measuring radiated spurious emissions), connected with cables of minimal length unless specified otherwise. If the EUT uses an adjustable antenna, the antenna shall be positioned to the length that produces the worst case emission at the fundamental operating frequency.
- b) Each emission under consideration shall be evaluated:
  - 1) Raise and lower the measurement antenna in accordance 5.5.2, as necessary to enable detection of the maximum emission amplitude relative to measurement antenna height.
  - 2) Rotate the EUT through 360° to determine the maximum emission level relative to the axial position.
  - 3) Return the turntable to the azimuth where the highest emission amplitude level was observed.
  - 4) Vary the measurement antenna height again through 1 m to 4 m again to find the height associated with the maximum emission amplitude.
  - 5) Record the measured emission amplitude level and frequency using the appropriate RBW.
- c) Repeat step b) for each emission frequency with the measurement antenna oriented in both the horizontal and vertical polarizations to determine the orientation that gives the maximum emissions amplitude.
- d) ~ j) Omitted
- k) Provide the complete measurement results as a part of the test report.

### Note:

- 1. The results of the Radiated Emissions test shown above are measured at maximum power, and data values are attached only in the worst case.
- 2. Measure distance = 3 m



#### Test Results:

### DSS B66 10M 1 Carrier + NR n66 5M 1 Carrier + NR n66 20M 1 Carrier [3 Carrier][1C+2C]

Frequency	Measured Level	Ant. Factor A.G.+C.L.+H.P.F.		Pol.	Measured Power	Result	
[dBm]	[dBuV]	[dB/m]	[dB]		[dBm]	[dBm/m]	
5 898.40	54.53	34.2	36.36	V	-40.67	-42.83	
12 780.00	51.09	39.8	31.34	V	-44.11	-35.65	

\* C.L.: Cable Loss / A.G.: Amp Gain / H.P.F.: High Pass Filter

\*Result: (Measured Level – 95.2) + Ant. Factor – (A.G.+C.L.+H.P.F.)

### Plot data of Radiated Emissions



Note: Only the worst case plots for Radiated Spurious Emissions.



### **5.7. FREQUENCY STABILITY**

### **Test Requirements:**

### § 2.1055 Measurements required: Frequency stability.

- (a) The frequency stability shall be measured with variation of ambient temperature as follows:
  - (1) From  $-30^{\circ}$  to  $+50^{\circ}$  centigrade for all equipment except that specified in paragraphs (a) (2) and (3) of this section.

### § 24.235 Frequency stability.

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

### § 27.54 Frequency stability.

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

### Test Procedures:

The measurement is performed in accordance with Section 5.6.3, 5.6.4 and 5.6.5 of ANSI C63.26.

### 5.6.3 Procedure for frequency stability testing

Frequency stability is a measure of the frequency drift due to temperature and supply voltage variations, with reference to the frequency measured at +20 °C and rated supply voltage.

The operating carrier frequency shall be set up in accordance with the manufacturer's published operation and instruction manual prior to the commencement of these tests. No adjustment of any frequency determining circuit element shall be made subsequent to this initial set-up. Frequency stability is tested:

- a) At 10 °C intervals of temperatures between -30 °C and +50 °C at the manufacturer's rated supply voltage, and
- b) At +20 °C temperature and  $\pm 15\%$  supply voltage variations. If a product is specified to operate over a range of input voltage then the -15% variation is applied to the lowermost voltage and the +15% is applied to the uppermost voltage.

During the test all necessary settings, adjustments and control of the EUT have to be performed without disturbing the test environment, i.e., without opening the environmental chamber. The frequency stabilities can be maintained to a lesser temperature range provided that the transmitter is automatically inhibited from operating outside the lesser temperature range. For handheld equipment that is only capable of operating from internal batteries and the supply voltage cannot be varied, the frequency stability tests shall be performed at the nominal battery voltage and the battery end point voltage specified by the manufacturer. An external supply voltage can be used and set at the internal battery nominal voltage, and again at the battery operating end point voltage which shall be specified by the equipment manufacturer. If an unmodulated carrier is not available, the mean frequency of a modulated carrier can be obtained by using a frequency counter with gating time set to an appropriately large multiple of bit periods (gating time depending on the required accuracy). Full details on the choice of values shall be included in the test report.

### 5.6.4 Frequency stability over variations in temperature



- a) Supply the EUT with a nominal 60 Hz ac voltage, dc voltage, or install a new or fully charged battery in the EUT.
- b) If possible a dummy load should be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustablelength antenna, the EUT should be placed in the center of the chamber with the antenna adjusted to the shortest length possible.
- c) Turn on the EUT, and tune it to the center frequency of the operating band.
- d) Couple the transmitter output to the measuring instrument through a suitable attenuator and coaxial cable. If connection to the EUT output is not possible, make the measurement by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away).
   NOTE An instrument that has an adequate level of accuracy as specified by the procuring or regulatory authority is the

NOTE—An instrument that has an adequate level of accuracy as specified by the procuring or regulatory authority is the recommended measuring instrument.

- e) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument, but is strong enough to allow measurement of the operating or fundamental frequency of the EUT). Adjust the detector bandwidth and span settings to achieve a resolution capable of accurate frequency measurements over the applicable frequency stability limits.
- f) Turn the EUT off, and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.
- g) Set the temperature control on the chamber to the Highest temperature specified in the regulatory requirements for the type of device, and allow the oscillator heater and the chamber temperature to stabilize. Unless otherwise instructed by the regulatory authority, this temperature should be 50 °C.
- h) While maintaining a constant temperature inside the environmental chamber, turn on the EUT and allow sufficient time for the EUT temperature to stabilize.
- i) Measure the frequency.
- j) Switch off the EUT, but do not switch off the oscillator heater.
- k) Lower the chamber temperature to the next level that is required by the standard and allow the temperature inside the chamber to stabilize. Unless otherwise instructed by the regulators, this temperature step should be 10 °C.
- l) Repeat step h) through step k) down to the lowest specified temperature. Unless otherwise instructed by the regulators, this temperature should be -30 °C. When the frequency stability limit is stated as being sufficient such that the fundamental emissions stay within the authorized bands of operation, a reference point shall be established at the applicable unwanted emissions limit using a RBW equal to the RBW required by the unwanted emissions specification of the applicable regulatory standard. These reference points measured using the lowest and Highest channel of operation shall be identified as  $f_L$  and  $f_H$  respectively. The worst-case frequency offset determined in the above methods shall be added or subtracted from the values of  $f_L$  and  $f_H$  and the resulting frequencies must remain within the band.
- m) Omitted

5.6.5 Frequency stability when varying supply voltage

a) Couple the transmitter output to the measuring instrument through a suitable attenuator and coaxial cable. If connection to the EUT output is not possible make the measurement by connecting an antenna to the measuring instrument with a



suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away)

- b) Supply the EUT with nominal ac or dc voltage. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided. Effects on frequency of transmitter keying (except for broadcast transmitters) and any heating element cycling at the nominal supply voltage and at each extreme also shall be shown.
- c) Turn on the EUT, and couple its output to a frequency counter or other frequency-measuring instrument.
- d) Tune the EUT to the center frequency of the operating band. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument, but is strong enough to allow measurement of the operating or fundamental frequency of the EUT). Adjust the detector bandwidth and span settings to achieve a resolution capable of accurate frequency measurements over the applicable frequency stability limits.

NOTE—An instrument that has an adequate level of accuracy as specified by the procuring or regulatory authority is the recommended measuring instrument.

- e) Measure the frequency.
- f) Unless otherwise specified, vary primary supply voltage from 85% to 115% of the nominal value for other than hand carried battery equipment.
- g) For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
- h) Repeat the frequency measurement.

NOTE—For band-edge compliance, it can be required to make these measurements at the low and High channel of the operating band.

**Note:** The results of the frequency stability test shown above the frequency deviation measured values are very small and similar trend for each port, so we are attached only the worst case data.



# Test Results:

### AWS

Voltage	Temp.	Frequency	Frequency	Deviation	
(%)	(°C)	(Hz)	Error (Hz)	(Hz)	ppm
100 %	+20(Ref)	2145 000 005	4.834	0.000	0.00000
	-30	2145 000 013	8.607	3.773	0.00176
	-20	2145 000 008	3.411	-1.423	-0.00066
	-10	2145 000 007	1.825	-3.009	-0.00140
	0	2145 000 012	7.253	2.419	0.00113
	+10	2145 000 009	3.838	-0.996	-0.00046
	+30	2145 000 010	4.761	-0.073	-0.00003
	+40	2145 000 012	7.618	2.784	0.00130
	+50	2145 000 010	4.793	-0.041	-0.00002
115 %	+20	2145 000 007	1.765	-3.069	-0.00143
85 %	+20	2145 000 006	1.434	-3.400	-0.00159

### **Reference: -** 48 Vdc at 20°C **Freq.** = 2,145,000,000 Hz

# **Reference:** - 48 Vdc at 20°C **Freq.** = 1,960,000,000 Hz

			• • • •		
Voltage	Temp.	Frequency	Frequency	Deviation	
(%)	(°C)	(Hz)	Error (Hz)	(Hz)	ppm
100 %	+20(Ref)	1960 000 003	3.123	0.000	0.00000
	-30	1960 000 011	8.352	3.518	0.00164
	-20	1960 000 004	0.435	-4.399	-0.00205
	-10	1960 000 010	7.278	2.444	0.00114
	0	1960 000 010	6.801	1.967	0.00092
	+10	1960 000 008	5.018	0.184	0.00009
	+30	1960 000 009	6.193	1.359	0.00063
	+40	1960 000 005	1.552	-3.282	-0.00153
	+50	1960 000 005	1.490	-3.344	-0.00156
115 %	+20	1960 000 010	6.749	1.915	0.00089
85 %	+20	1960 000 012	9.008	4.175	0.00195

**Note:** The results of the frequency stability test shown above the frequency deviation measured values are very small and similar trend for each port, so attached datas were only the port 0.



# 6. Annex B\_EUT AND TEST SETUP PHOTO

Please refer to test setup photo file no. as follows;

No.	Description	
1	HCT-RF-2212-FC003-P	