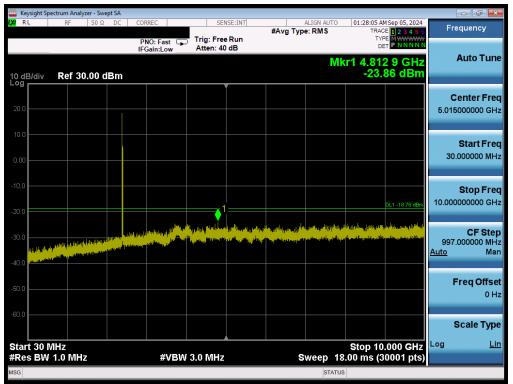


7.6.1 MIMO Conducted Spurious Emissions



Plot 7-56. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 26 Tones – Ch. 1)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dege EG of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 56 of 86
© 2024 ELEMENT			V11.1 08/28/2023



Keysight Spectrum Analyzer - Swept SA	CORREC	SENSE:INT	ALIGN AUTO	01:28:27 AM Sep 05, 2024	
KL RF DUY DU	PNO: Fast	Trig: Free Run Atten: 10 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE MWWWW DET P NNNN	Frequency
0 dB/div Ref 0.00 dBm			Mk	1 23.919 5 GHz -47.26 dBm	Auto Tur
10.0				DL1 -18.76 dBm	Center Fr 17.500000000 GI
30.0					Start Fr 10.000000000 G
10.0		and the second second second	ang in 116 Hards on 17 fill provid a 15 kits of the first state	1 The had a start and a start and and a start business	Stop Fr 25.000000000 G
	ka na posrana na kina na kina kina kina kina kina	ray da basalan ya da kasalan da k Mata kasalan da kasalan Mata kasalan da kasalan	an the second	n er julier plans Allen auf er sjol er i Mindel Landel a Mer an Deste 	CF St 1.500000000 G Auto M
30.0					Freq Offs 0
0.0					Scale Ty
Start 10.000 GHz Res BW 1.0 MHz	#VBW	3.0 MHz	Sweep 20	Stop 25.000 GHz 6.00 ms (30001 pts)	Log <u>l</u>

Plot 7-57. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 26 Tones – Ch. 1)



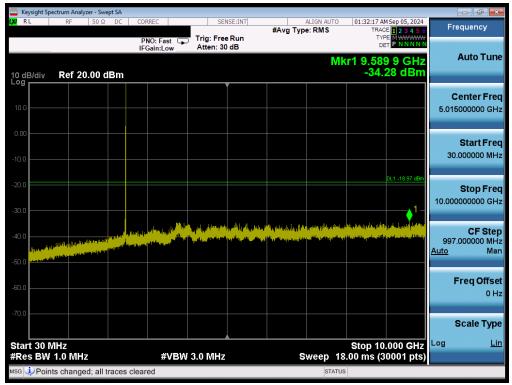
Plot 7-58. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA - 26 Tones - Ch. 6)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dege EZ of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 57 of 86	
© 2024 ELEMENT		·	V11.1 08/28/2023	



RL	ectrum Analyze RF	50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	01:30:40 AM Sep 05, 2024	
			PNO: Fast G	Trig: Free Run Atten: 10 dB	#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWWW DET P N N N N N	Frequency
0 dB/div	Ref 0.0	0 dBm			Mk	r1 23.638 5 GHz -47.24 dBm	Auto Tur
10.0						DL1 -20.04 dBm	Center Fr 17.500000000 G
30.0						ULI -2004 0011	Start Fr 10.000000000 G
40.0 50.0					a general de la constitución de la La constitución de la constitución d		Stop Fr 25.000000000 G
60.0 1	digitating dina dina dina dina dina dina dina dina	ulting galis Silang galis	ngangan gen apa sing seneral ang separat pangangan pangangan pangangan pangangan pangangan pangangan pangangan Pangangangan panganganganganganganganganganganganganga	and the second	an an ann an Anna an An		CF St 1.500000000 G
70.0							<u>Auto</u> M
30.0							Freq Offs
							0
30.0							Scale Ty
tart 10.0 Res BW	00 GHz 1.0 MHz		#VBV	/ 3.0 MHz	Sweep 2	Stop 25.000 GHz 6.00 ms (30001 pts)	Log <u>I</u>
SG					STATU	s	

Plot 7-59. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 26 Tones – Ch. 6)



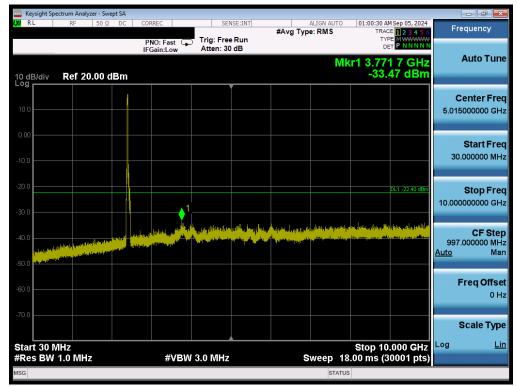
Plot 7-60. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 26 Tones – Ch. 11)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage EQ of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 58 of 86	
© 2024 ELEMENT	•		V11.1 08/28/2023	



Keysight Spect	trum Analyzer - Sw RF 50 Ω		DRREC		CE-INT			01-00-00 4M 2	05.0004		- di - 🔁
KL	RF 50 Ω		PNO: Fast 🖵 FGain:Low			#Avg Typ	ALIGN AUTO e: RMS	01:32:38 AM Sep TRACE 1 2 TYPE MV DET P	3456	Freque	ncy
0 dB/div	Ref 0.00 di		Guilleow				Mkr	1 24.301 5 -46.81		Aut	o Tur
10.0								DL1 -1	8.97 dBm	Cento 17.5000000	
30.0										Sta 10.0000000	irt Fre
io.o io.o			hypertered (1974) 1974 and 1974		مالانت بارمون	a و و معادر و معادر و ال فر	alkalını i fi katı verkir	witzelawa (manificani)	1 Helenakise	Sto 25.0000000	p Fr 000 G
	Astronometer and the second	per participation de la presidente de la presidente de la		ann an State an State an State	and the second state	a deliver a	and the second state of th	A CONTRACTOR OF STREET	dij falikulikur	C	FSte
50.0 * * * * * *	A. H. Harden and A.									1.5000000 Auto	
30.0										Freq	
90.0											0
										Scal	еТу
tart 10.00 Res BW 1			#VBW	3.0 MHz		s	weep 26	Stop 25.000 .00 ms (3000	0112	_og	Ţ
SG							STATUS				

Plot 7-61. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 26 Tones – Ch. 11)



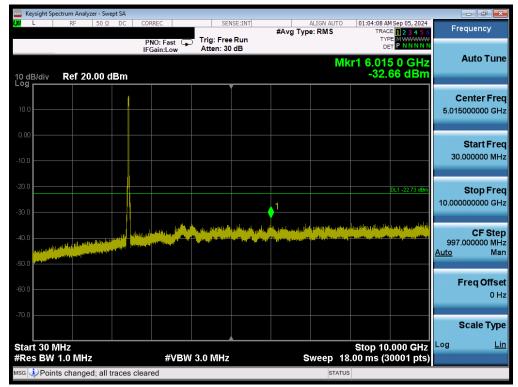
Plot 7-62. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA - 242 Tones - Ch. 1)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates: EUT Type:		Dage 50 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 59 of 86
© 2024 ELEMENT	•		V11.1 08/28/2023



Keysight Sp X/RL	RF			CORREC	CE	ICE-INT			01-00-51 414	05 2024	-	- 6
N KL	KF-	50 Ω	DC	PNO: Fast			#Avg Typ	ALIGN AUTO e: RMS	TYPE	1 2 3 4 5 6 MWWWWW P N N N N N	Freq	uency
10 dB/div	Ref 0.0)0 dBr	n					Mkr	1 23.888 -47.1	5 GHz 1 dBm	A	uto Tur
-10.0											Ce 17.5000	nter Fre
30.0									DI	.1 -22:40 dBm	S 10.0000	Start Fr 00000 G
-40.0				atela les freprochaustegory	1 10 1 101	s de consectiones	a tan tai ina ina a	a fallad yake (figurate, e. 12 a)	and a start and a start and a start		S 25.0000	Stop Fr 00000 G
60.0 4.464	Aller of a strength			alite dianti gradita and		a shire a shire san shire	ali yali ingi kunga kunga kulon an	te and the base of the local	, and a channel of any local with and a little		1.5000 <u>Auto</u>	CF St 00000 G N
.70.0											Fr	eq Offs 0
90.0												ale Ty
Start 10.0 #Res BW	000 GHz 1.0 MHz	:		#VBV	/ 3.0 MHz		s	weep 26	Stop 25.0 .00 ms (30	OV GHZ	Log	ļ
ISG								STATUS	6			

Plot 7-63. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 242 Tones – Ch. 1)



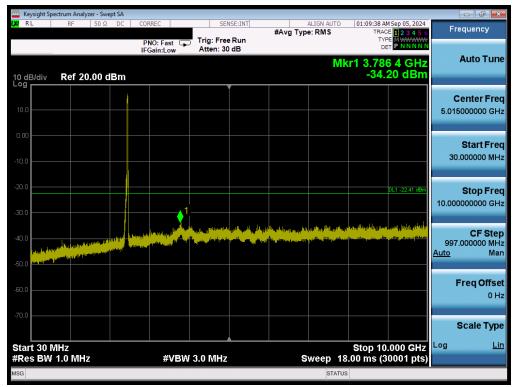
Plot 7-64. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 242 Tones – Ch. 6)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 60 of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 60 of 86	
© 2024 ELEMENT			V11.1 08/28/2023	



X/RL	RF RF	- Swept SA 50 Ω DC	CORREC	SENSE:INT	ALIGN AUTO	01:04:29 AM Sep 05, 2024	
		50 32 DC	PNO: Fast		#Avg Type: RMS	TRACE 1 2 3 4 5 6 TYPE M WWWW DET P N N N N N	Frequency
10 dB/div	Ref 0.00) dBm			Mki	1 24.115 0 GHz -47.18 dBm	Auto Tur
-10.0							Center Fro 17.500000000 GI
-20.0						DL1 -22.73 dBm	Start Fr 10.000000000 G
-40.0			an a lateral trade		and a state of the		Stop Fr 25.000000000 G
-60.0	konfernigere og god hanken annangere og k		n tig ting a second	n den samelen stand i villen dis side	na ng patén na si Silatang Silang di Pangkan na na silakan di Anandra na		CF Sto 1.50000000 G <u>Auto</u> M
80.0							Freq Offs 0
-90.0							Scale Ty
Start 10.0 #Res BW			#VBW	3.0 MHz	Sweep 20	Stop 25.000 GHz 5.00 ms (30001 pts)	Log <u>l</u>

Plot 7-65. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA - 242 Tones - Ch. 6)



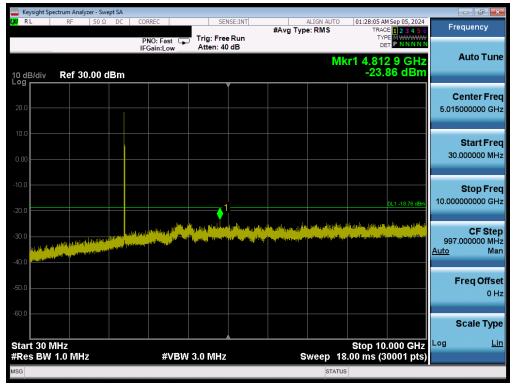
Plot 7-66. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA - 242 Tones - Ch. 11)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dere 61 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 61 of 86
© 2024 ELEMENT	·	·	V11.1 08/28/2023



SG							STATUS		
	1.0 MHz		#VBN	V 3.0 MHz		s	weep 26	Stop 25.000 GH .00 ms (30001 pt	12
Stort 10	000 GHz							Stop 25 000 Cl	
90.0									Scale Typ
									U.
80.0									Freq Offs
70.0									
									1.50000000 GH <u>Auto</u> Ma
60.0 P	hand been allowed and allowed with the	and the second		- Des selles and a little	والمراجعة والتحديل المقرون	i pristi di Managari di Kasa di			CF Ste
50.0	to all the second of part of the	المعالية بالم	under den delet wardt	g Hard [1] the base of the	EUD-KIPPIN	a under al de la care d	and and a state of the second seco	an a	
								•	1 Stop Fre 25.00000000 GH
40.0									
30.0									10.00000000 GH
20.0								DL1 -22.41 c	Start Fre
20.0									
10.0									17.50000000 GH
- ^{og}				`````					Center Fre
0 dB/div	Ref 0.00	dBm					WK	1 24.475 0 GH -46.96 dB	74
			FGain:Low	Atten: 10					
			PNO: Fast			#Avg Typ		TRACE 1 2 3 4 TYPE M WWW	5 6 Frequency
0 RL	RF 50	wept SA Ω DC O	ORREC	SEN	SE:INT		ALIGN AUTO	01:09:59 AM Sep 05, 20	24

Plot 7-67. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA – 242 Tones – Ch. 11)



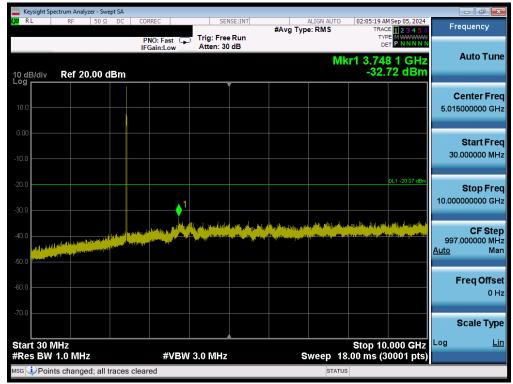
Plot 7-68. Conducted Spurious Plot MIMO ANT1 (802.11ax/be OFDMA - 26 Tones - Ch. 1)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT					
Test Report S/N:	Test Dates:	st Dates: EUT Type:					
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 62 of 86				
© 2024 ELEMENT	2024 ELEMENT						



Keysight Spectrum Anal						
RL RF	50 Ω DC	PNO: Fast	SENSE:INT Trig: Free Run Atten: 10 dB	ALIGN AUTO #Avg Type: RMS	02:08:07 AM Sep 05, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P NNNNN	Frequency
0 dB/div Ref 0.	.00 dBm	I Guill.Low		Mł	r1 24.128 5 GHz -47.20 dBm	Auto Tui
og 10.0						Center Fr 17.500000000 G
30.0					DL1 -20.24 dBm	Start Fr 10.000000000 G
io.o			the totacal	gel 2° arried 5 arr 19 form long 6 la gaser (min 5 m for 5 m for 19 2° arried 6 arr 19 form long 6 la gaser (min 5 m for 6 m for 5 m for 6 m for	nyin silesenyili yasaa mallakeen ilareka harge	Stop Fr 25.000000000 G
Andread in still patients with an inter-	aliterilisen fileles ^{alite} ise Generalisen alesse ^{ist} ier	an jaga kana su yan su ya su su su su Mana su ya su ya su		مالدرية الانتخاب وريادة في ريادة فالدرية التي الدرية الانتخاب وريادة في ريادة فالدرية التي	n de la desta de la desta de la desta de la desta de la despo Calificación de la desta de	CF St 1.500000000 G Auto M
70.0						Auto M Freq Offs
0.0						0
tart 10.000 GHz Res BW 1.0 MH		#VBW	3.0 MHz	Sween	Stop 25.000 GHz 26.00 ms (30001 pts)	Scale Ty
sg				STAT		

Plot 7-69. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 26 Tones – Ch. 1)



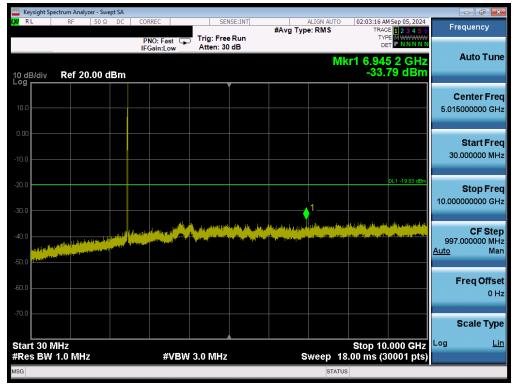
Plot 7-70. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 26 Tones – Ch. 6)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 62 of 96		
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 63 of 86		
© 2024 ELEMENT		·	V11.1 08/28/2023		



SG								STATUS		
Res BW				#VB	V 3.0 MHz			Sweep 26	5.00 ms (30001 pts)	
tart 10.									Stop 25.000 GHz	Log <u>L</u>
										Scale Ty
90.0										
										0
BO.0										Freq Offs
/0.0										
70.0										<u>Auto</u> M
0.0										1.50000000 G
NH-AN-	an alles de la des la des	in a suit aire air	A THE ROLL OF	and a state of the second	ومتأثلته وجدار أحداد مخدأته إرب	and the second	an in the state of the second s			CF St
50.0				And the second	A DESCRIPTION OF THE	and a part of the local sector	C Photosofices	كمر بدكمكن والظنار والع	والمربعة والالتكاف المترج والمتعادي	
									an and a tang taking the state	25.00000000 G
40.0									1	Stop Fr
30.0										10.00000000000000
										10.000000000 G
20.0									DL1 -20.07 dBm	Start Fr
10.0										17.50000000 G
										Center Fr
.og	Kellu	.00 ab								
0 dB/div	Bof 0	.00 dB	100					IVIKI	-47.30 dBm	
				IFGain:Low	Atten. It	ub		Miles	1 24.137 5 GHz	Auto Tu
				PNO: Fast	Trig: Free Atten: 10		-			
KL	RF	50 Ω	DC	CORREC	SEN	ISE:INT	#Avg T	ALIGN AUTO	02:05:40 AM Sep 05, 2024 TRACE 1 2 3 4 5 6	Frequency
RL		lyzer - Swe		000050					02.05.40.444.0	

Plot 7-71. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA - 26 Tones - Ch. 6)



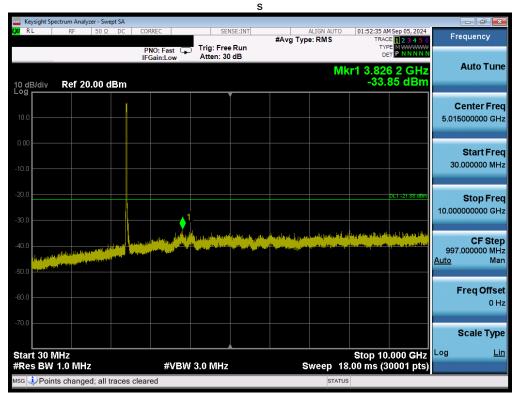
Plot 7-72. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA - 26 Tones - Ch. 11)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dege 64 of 96		
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 64 of 86		
© 2024 ELEMENT		·	V11.1 08/28/2023		



Keysight Spectru	m Analyzer - Swept S RF 50 Ω D	C CORREC	SENSE:INT	ALIGN AUTO	02:02:27 AM Cop 05: 2024	
κι	KF 50 52 L	PNO: Fast		#Avg Type: RMS	02:03:37 AM Sep 05, 2024 TRACE 1 2 3 4 5 6 TYPE M WWWW DET P NNNNN	Frequency
0 dB/div R	tef 0.00 dBm			Mkr	1 23.915 5 GHz -46.57 dBm	Auto Tun
10.0					DL1 -19.83 dBm	Center Fre 17.500000000 GF
30.0						Start Fre 10.00000000 GF
40.0 50.0		like town as to be at	نىلى ئىلى يىرى بىلى بىلى بىلى بىلى بىلى بىلى بىلى ب		1 Physics of the second	Stop Fre 25.000000000 GF
		n an	nen ya kuno (kalan ya kuno) Ishin na dha kuno, kiliki manifu kalin kunokaliki Ishin na dha kuno, kiliki manifu kalin kunokaliki			CF Ste 1.50000000 GH <u>Auto</u> Ma
30.0						Freq Offs 0 I
30.0						Scale Ty
tart 10.000 Res BW 1.0		#VBW	3.0 MHz	Sweep 26	Stop 25.000 GHz 6.00 ms (30001 pts)	Log <u>L</u>
SG				STATUS	3	

Plot 7-73. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 26 Tones – Ch. 11)



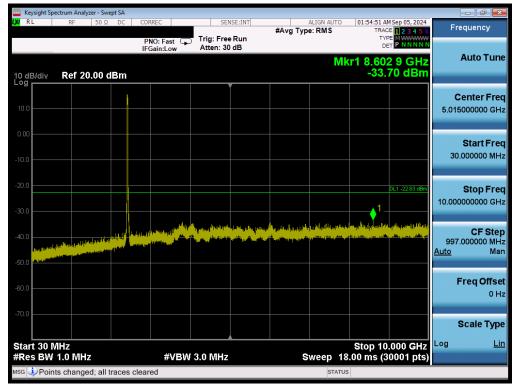
Plot 7-74. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA - 242 Tones - Ch. 1)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Page 65 of 86		
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset			
© 2024 ELEMENT	•		V11.1 08/28/2023		



	pectrum Analy										- # -
X/RL	RF	50Ω [PNO: Fast	Trig: Free I		#Avg Type	ALIGN AUTO e: RMS	TYPE M	p 05, 2024 2 3 4 5 6	Frequ	iency
10 dB/div	Ref 0.0	00 dBm	IFGain:Low _	Atten: 10 o	IB		Mkr	1 23.609 (-47.33) GHz	Au	ito Tui
-10.0										Cen 17.50000	i ter Fr o
30.0								DL1	-21.88 dBm	St 10.00000	a rt Fr 0000 G
40.0 50.0			togashyanishaf hijilinikuna (jea		an lass of the last life	are the star of the star of the	व्यात्म त्यात्र होते.	1 Alexandress of the second s	(ad best the best of the best	S1 25.00000	t op Fr 0000 G
	ineral lagit parta jak Marika di tariha si t	and the paper	ng talapartan Ang Dag Bakarang Ng talapartan King King Ang King King King King King King King Ki	kogi bayaran kilang pakini di bilan Kada ini layaran karakar kilan		india (particul	a na an Anna an Anna an Anna Anna Anna	nder de calundo cader de la composition		1.50000 <u>Auto</u>	CF St 0000 G N
80.0										Fre	q Off s 0
90.0										Sc:	ale Ty
Start 10.0 #Res BW	000 GHz 1.0 MHz	2	#VB	W 3.0 MHz		s	weep 26	Stop 25.00 .00 ms (300	01 pts)	<u> </u>	
ISG							STATUS				

Plot 7-75. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 242 Tones – Ch. 1)



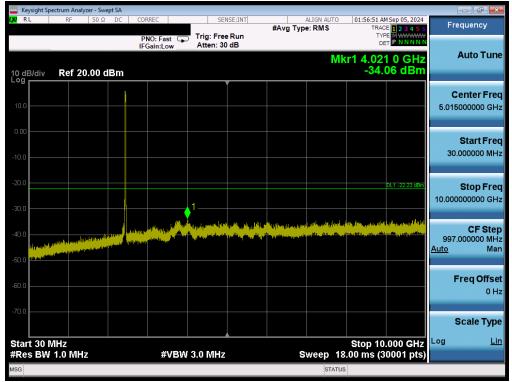
Plot 7-76. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 242 Tones – Ch. 6)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Degra 66 of 96		
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 66 of 86		
© 2024 ELEMENT			V11.1 08/28/2023		



	/ 1.0 MH			#VB\	N 3.0 MHz		\$	Sweep 26	.00 ms (300	01 pts)	
Start 10.	000 GHz	2							Stop 25.00	0 GHz	Log <u>L</u>
											Scale Ty
90.0											
80.0											0
											Freq Offs
70.0											<u>Auto</u> N
50.0 	alla di ata ata a	and the local division of the local division	A CONTRACTOR OF THE OWNER OF THE								1.500000000 G
All and a second se	Anglegen gligt	A SHARE	and the second second	er en grefen i geste som spå som som er s Ben fakt er som er so	ral prosperio and prosperio. Manuficipation and prosperio	and the second	فمالأ وبالرباط المأد الله	فسلفاء وحصرهم وهمر وا	a dita dia Alterratia di si da trianda		CF St
50.0				antigation de la constant de la cons		الانتارين التي	and the state of the	ليشدر فارتقوا والأفقاط فله		(possibility and a	20.00000000000000
									•	1	Stop Fr 25.00000000 G
40.0											
30.0											10.00000000 G
									021		Start Fr
20.0									DI1	-22.63 dBm	
10.0											17.50000000 G
											Center Fr
0 dB/div . ^{og}	Reru	.00 dB	m			Y				abiii	
	B-6.0	00 -10						Mkr	1 23.848 0 -47.47	dBm	Autoru
				IFGain:Low	Atten: 10					NNNNN	Auto Tu
				PNO: Fast	Trig: Fre	e Run	#Avg Ty	e: RMS	TYPE M	23456 www.ww	Frequency
(RL	RF	50 Ω	DC	CORREC	SE	NSE:INT		ALIGN AUTO	01:55:12 AM Sep		

Plot 7-77. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA - 242 Tones - Ch. 6)



Plot 7-78. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA - 242 Tones - Ch. 11)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT			
Test Report S/N:	Test Dates:	EUT Type:	Dage 67 of 96		
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 67 of 86		
© 2024 ELEMENT	·	·	V11.1 08/28/2023		



	ectrum Analyzer -	Swept SA							
LXI RL	RF 50	DΩ DC	CORREC	S	ENSE:INT	#Avg Ty	ALIGN AUTO	01:57:12 AM Sep 05, 2024 TRACE 1 2 3 4 5 6	Frequency
			PNO: Fast IFGain:Lov						
10 dB/div Log	Ref 0.00	dBm					Mkr	1 24.098 0 GHz -46.99 dBm	Auto Tune
-10.0									Center Freq 17.50000000 GHz
-20.0								DL1 -22.23 dBm	Start Freq 10.00000000 GHz
-40.0			t de dit a	ta plan websie dipercent	h. s. La na atlatida	ala i su si su	L. The start of th	1 http://www.com/allocative.com/allocative	Stop Freq 25.00000000 GHz
-60.0		Norte Constants	n na				4) (CF Step 1.50000000 GHz <u>Auto</u> Man
-80.0									Freq Offset 0 Hz
-90.0									Scale Type
Start 10.0 #Res BW			#V	'BW 3.0 MH	z		Sweep 26	Stop 25.000 GHz .00 ms (30001 pts)	Log <u>Lin</u>
MSG							STATUS		

Plot 7-79. Conducted Spurious Plot MIMO ANT2 (802.11ax/be OFDMA – 242 Tones – Ch. 11)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dege 69 of 96	
1M2408260070-10.A3L	2408260070-10.A3L 09/03/2024 - 10/25/2024 Portable Handset		Page 68 of 86	
© 2024 ELEMENT			V11.1 08/28/2023	



7.7 Radiated Emission Measurements

Test Overview and Limit

All out of band radiated spurious emissions are measured with a spectrum analyzer connected to a receive antenna while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates and modes were investigated for radiated spurious emissions. Only the radiated emissions of the configuration that produced the worst case emissions are reported in this section.

All out of band emissions appearing in a restricted band as specified in FCC §15.205 of the Title 47 CFR and Table 6 of RSS-Gen (8.10) must not exceed the limits shown FCC §15.209 and RSS-Gen (8.9).

Frequency	Field Strength [µV/m]	Measured Distance [Meters]		
0.009 – 0.490 MHz	2400/F (kHz)	300		
0.490 – 1.705 MHz	24000/F (kHz)	30		
1.705 – 30.00 MHz	30	30		
30.00 – 88.00 MHz	100	3		
88.00 – 216.0 MHz	150	3		
216.0 – 960.0 MHz	200	3		
Above 960.0 MHz	500	3		

Table 7-21. Radiated Limits

Test Procedures Used

ANSI C63.10-2013 – Section 6.6.4.3

Test Settings

Average Field Strength Measurements

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = power average (RMS)
- 5. Number of measurement points = 1001 (Number of points must be $\geq 2 \times \text{span/RBW}$)
- 6. Sweep time = auto
- 7. Trace (RMS) averaging was performed over at least 100 traces

FCC ID: A3LSMS938JPN		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	est Dates: EUT Type:	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 69 of 86
© 2024 ELEMENT			V11.1 08/28/2023

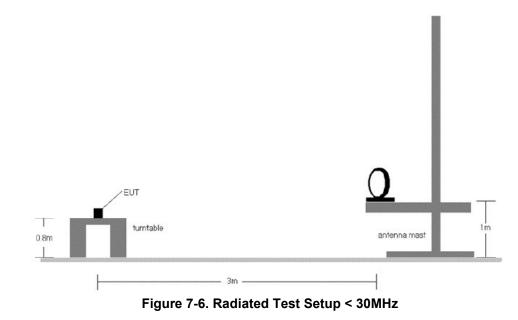


Peak Field Strength Measurements

- 1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
- 2. RBW = 1MHz
- 3. VBW = 3MHz
- 4. Detector = peak
- 5. Sweep time = auto couple
- 6. Trace mode = max hold
- 7. Trace was allowed to stabilize

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



FCC ID: A3LSMS938JPN		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dere 70 of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 70 of 86	
© 2024 ELEMENT		· · · · · · · · · · · · · · · · · · ·	V11.1 08/28/2023	



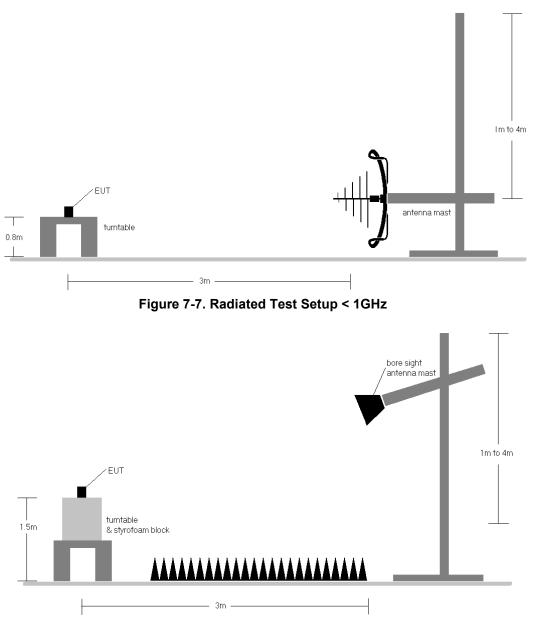


Figure 7-8. Test Instrument & Measurement Setup

Test Notes

- 1. The optional test procedures for antenna port conducted measurements of unwanted emissions per the guidance of ANSI C63.10-2013 Section 11.3 were not used to evaluate this device for compliance to radiated limits. All radiated spurious emissions levels were measured in a radiated test setup.
- 2. All emissions lying in restricted bands specified in §15.205 and Section 8.10 of RSS-Gen are below the limits shown in §15.209.
- 3. The antenna is manipulated through typical positions, polarity and length during the tests. The EUT is manipulated through three orthogonal planes.

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	est Dates: EUT Type:	
1M2408260070-10.A3L	60070-10.A3L 09/03/2024 - 10/25/2024 Portable Handset		Page 71 of 86
© 2024 ELEMENT			V11.1 08/28/2023



- 4. This unit was tested with its standard battery.
- 5. The spectrum is measured from 9kHz to the 10th harmonic of the fundamental frequency of the transmitter using CISPR quasi peak detector below 1GHz. Above 1 GHz, average and peak measurements were taken using linearly polarized horn antennas. The worst-case emissions are reported however emissions whose levels were not within 20dB of the respective limits were not reported.
- 6. Emissions below 18GHz were measured at a 3 meter test distance while emissions above 18GHz were measured at a 1 meter test distance with the application of a distance correction factor.
- 7. The wide spectrum spurious emissions plots shown on the following pages are used only for the purpose of emission identification. Any emissions found to be within 20dB of the limit are fully investigated and the results are shown in this section.
- 8. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
- 9. Some band edge measurements were performed using a channel integration method to determine compliance with the out of band average radiated spurious emissions limit in the 2483.5 2500MHz band. Per KDB 558074 D01 v05r02 Section 13.3, a measurement was performed using a RBW of 100kHz at the frequency with highest emission outside of band edge. For integration that does not start at 2483.5MHz, consideration was taken to ensure the worst-case emission is in the 1MHz spectrum. The results were integrated up to the 1MHz reference bandwidth to show compliance with the 15.209 radiated limit for emissions greater than 1GHz.
- 10. For radiated measurements, emissions were investigated for the fully-loaded RU configuration and for all the partially-loaded RU configurations. Among all of the available partially-loaded RU configurations, only the configuration with the worst case emissions is reported.

Sample Calculations

Determining Spurious Emissions Levels

- Field Strength Level [dBμV/m] = Analyzer Level [dBm] + 107 + AFCL [dB/m]
- AFCL [dB/m] = Antenna Factor [dB/m] + Cable Loss [dB]
- Margin [dB] = Field Strength Level [dBμV/m] Limit [dBμV/m]

Radiated Band Edge Measurement Offset

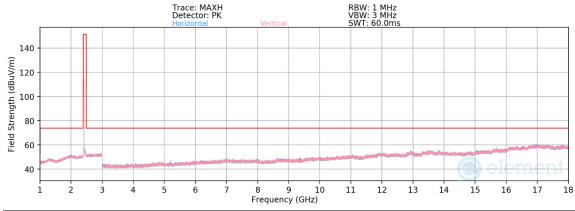
• The amplitude offset shown in the radiated restricted band edge plots in Section 0 was calculated using the formula:

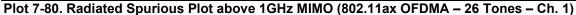
Offset (dB) = (Antenna Factor + Cable Loss + Attenuator) – Preamplifier Gain

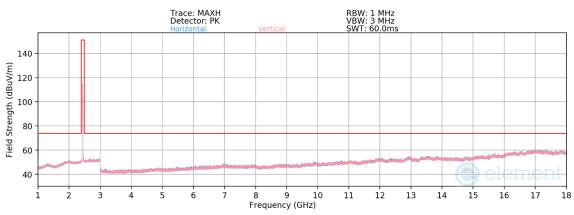
FCC ID: A3LSMS938JPN		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dego 70 of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 72 of 86	
© 2024 ELEMENT			V11.1 08/28/2023	

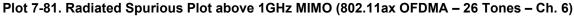


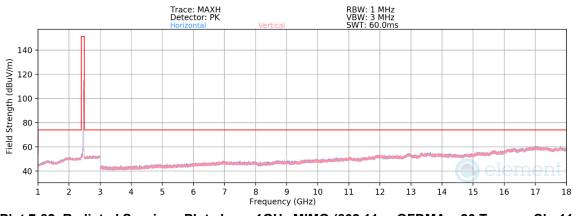
7.7.2 MIMO Radiated Spurious Emission Measurements











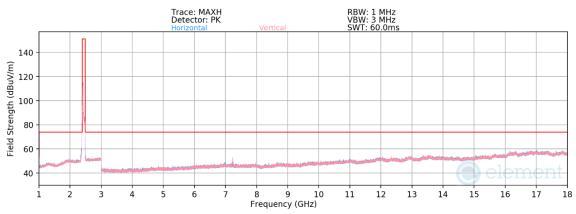
Plot 7-82. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 26 Tones – Ch. 11)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dage 72 of 96	
1M2408260070-10.A3L	2408260070-10.A3L 09/03/2024 - 10/25/2024 Portable Handset		Page 73 of 86	
© 2024 ELEMENT			V11.1 08/28/2023	

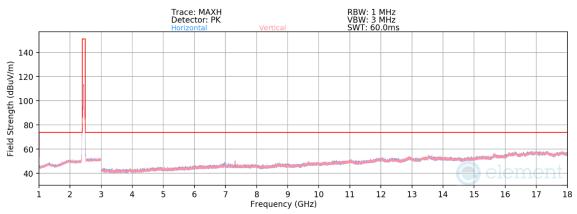




Plot 7-83. Radiated Spurious Plot above 18GHz MIMO (802.11ax OFDMA – 26 Tones)



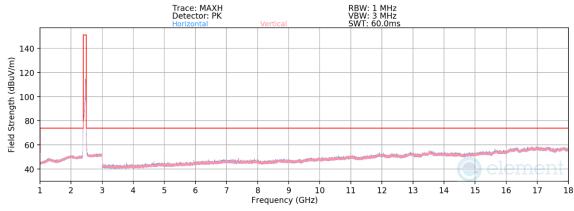
Plot 7-84. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 1)



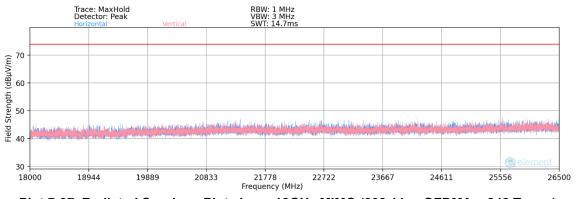
Plot 7-85. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 6)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	Dates: EUT Type:	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 74 of 86
© 2024 ELEMENT	•		V11.1 08/28/2023





Plot 7-86. Radiated Spurious Plot above 1GHz MIMO (802.11ax OFDMA – 242 Tones – Ch. 11)



Plot 7-87. Radiated Spurious Plot above 18GHz MIMO (802.11ax OFDMA – 242 Tones)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT		
Test Report S/N:	Test Dates:	EUT Type:	Dega 75 of 96	
1M2408260070-10.A3L 09/03/2024 - 10/25/2024 Portable Handset		Portable Handset	Page 75 of 86	
© 2024 ELEMENT			V11.1 08/28/2023	



MIMO Radiated Spurious Emission Measurements

Worst Case Mode:802.11ax OFDMAWorst Case Transfer Rate:MCS0RU Index:4Distance of Measurements:3 MetersOperating Frequency:2412MHzChannel:1

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	Н	-	-	-80.79	8.12	34.33	53.98	-19.65
4824.00	Peak	Н	-	-	-69.49	8.12	45.63	73.98	-28.35
7236.00	Avg	н	-	-	-81.31	11.43	37.12	53.98	-16.86
7236.00	Peak	Н	-	-	-70.38	11.43	48.05	73.98	-25.93
12060.00	Avg	Н	-	-	-83.09	17.98	41.89	53.98	-12.09
12060.00	Peak	Н	-	-	-71.74	17.98	53.24	73.98	-20.74

Table 7-22. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel:

802.11ax OFDMA
MCS0
4
3 Meters
2437MHz
6

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	Н	-	-	-80.65	8.25	34.60	53.98	-19.38
4874.00	Peak	Н	-	-	-69.25	8.25	46.00	73.98	-27.98
7311.00	Avg	Н	-	-	-81.78	11.43	36.65	53.98	-17.33
7311.00	Peak	Н	-	-	-70.68	11.55	47.87	73.98	-26.11
12185.00	Avg	Н	-	-	-82.54	17.33	41.79	53.98	-12.19
12185.00	Peak	Н	-	-	-71.31	17.26	52.95	73.98	-21.03

Table 7-23. Radiated Measurements MIMO (26 Tones)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager	
Test Report S/N:	Test Dates:	EUT Type:	Dage 76 of 96	
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 76 of 86	
© 2024 ELEMENT	•	·	V11.1 08/28/2023	



Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	4
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	Н	-	-	-80.43	7.97	34.54	53.98	-19.44
4924.00	Peak	н	-	-	-68.94	8.16	46.22	73.98	-27.76
7386.00	Avg	н	-	-	-81.60	11.32	36.72	53.98	-17.26
7386.00	Peak	н	-	-	-70.62	11.56	47.94	73.98	-26.04
12310.00	Avg	н	-	-	-83.08	18.27	42.19	53.98	-11.79
12310.00	Peak	н	-	-	-71.60	18.27	53.67	73.98	-20.31

Table 7-24. Radiated Measurements MIMO (26 Tones)

Worst Case Mode: Worst Case Transfer Rate: RU Index: Distance of Measurements: Operating Frequency: Channel:
 802.11ax OFDMA

 MCS0
 61

 3 Meters
 2412MHz

 1
 1

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4824.00	Avg	Н	-	-	-80.55	7.81	34.26	53.98	-19.72
4824.00	Peak	Н	-	-	-69.42	7.81	45.39	73.98	-28.59
7236.00	Avg	V	100	312	-75.48	10.75	42.27	53.98	-11.71
7236.00	Peak	V	100	312	-63.61	10.75	54.14	73.98	-19.84
12060.00	Avg	Н	-	-	-82.63	17.08	41.45	53.98	-12.53
12060.00	Peak	Н	-	-	-70.66	17.08	53.42	73.98	-20.56

Table 7-25. Radiated Measurements MIMO (242 Tones)

FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dana 77 of 00
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 77 of 86
© 2024 ELEMENT		·	V11.1 08/28/2023



Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	2437MHz
Channel:	6

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4874.00	Avg	Н	-	-	-80.80	7.94	34.14	53.98	-19.84
4874.00	Peak	Н	-	-	-69.25	7.94	45.69	73.98	-28.29
7311.00	Avg	V	100	307	-76.62	10.90	41.28	53.98	-12.70
7311.00	Peak	V	100	307	-64.30	10.90	53.60	73.98	-20.38
12185.00	Avg	Н	-	-	-82.24	16.49	41.25	53.98	-12.73
12185.00	Peak	н	-	-	-71.09	16.49	52.40	73.98	-21.58

Table 7-26. Radiated Measurements MIMO (242 Tones)

Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11

Frequency [MHz]	Detector	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBµV/m]	Limit [dBµV/m]	Margin [dB]
4924.00	Avg	н	-	-	-80.20	7.62	34.42	53.98	-19.56
4924.00	Peak	н	-	-	-68.82	7.62	45.80	73.98	-28.18
7386.00	Avg	V	251	319	-78.54	10.99	39.45	53.98	-14.53
7386.00	Peak	V	251	319	-66.06	10.99	51.93	73.98	-22.05
12310.00	Avg	н	-	-	-83.12	17.91	41.79	53.98	-12.19
12310.00	Peak	н	-	-	-71.94	17.91	52.97	73.98	-21.01

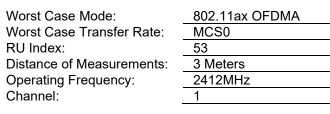
Table 7-27. Radiated Measurements MIMO (242 Tones)

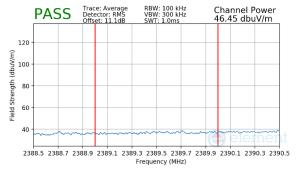
FCC ID: A3LSMS938JPN		MEASUREMENT REPORT	
Test Report S/N:	Test Dates:	EUT Type:	Dara 70 of 00
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 78 of 86
© 2024 ELEMENT			V11.1 08/28/2023



7.7.3 MIMO Radiated Restricted Band Edge Measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting.

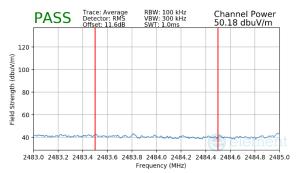




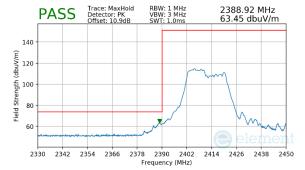
Plot 7-88. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 106 Tones)

Worst Case Mode:
Worst Case Transfer Rate:
RU Index:
Distance of Measurements:
Operating Frequency:
Channel:

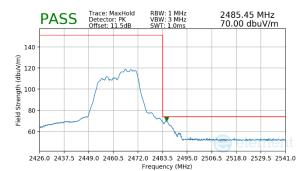
	802.11ax OFDMA
	MCS0
	54
:	3 Meters
	2462MHz
	11







Plot 7-89. Radiated Restricted Lower Band Edge Measurement MIMO (Peak – 106 Tones)

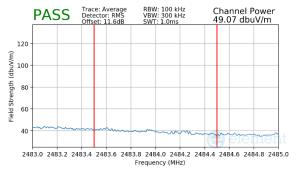


Plot 7-91. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106 Tones)

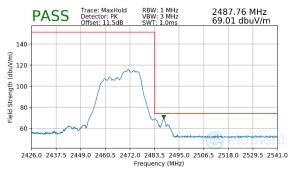
FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 70 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 79 of 86
© 2024 ELEMENT	-	·	V11.1 08/28/2023



Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	2467MHz
Channel:	12

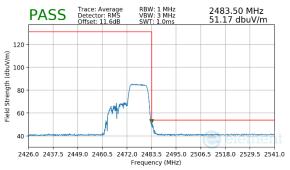


Plot 7-92. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106 Tones)

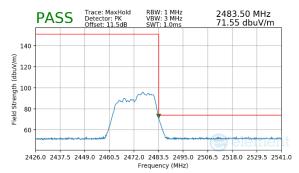




Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	54
Distance of Measurements:	3 Meters
Operating Frequency:	2472MHz
Channel:	13



Plot 7-94. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106 Tones)

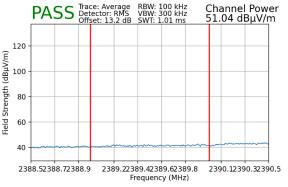


Plot 7-95. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106 Tones)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 80 of 86
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 80 of 86
© 2024 ELEMENT			V11.1 08/28/2023

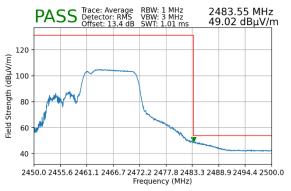


Worst Case Mode:	802.11be OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	82
Distance of Measurements:	3 Meters
Operating Frequency:	2412MHz
Channel:	1

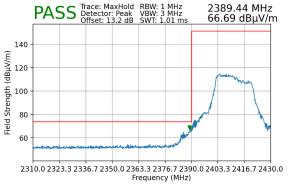


Plot 7-96. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 106+26 Tones)

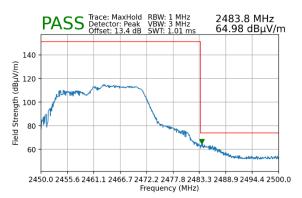
Worst Case Mode:	802.11be OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	83
Distance of Measurements:	3 Meters
Operating Frequency:	2462MHz
Channel:	11



Plot 7-98. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106+26 Tones)





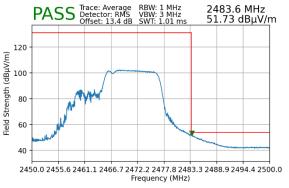


Plot 7-99. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106+26 Tones)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 91 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 81 of 86
© 2024 ELEMENT	•		V11.1 08/28/2023

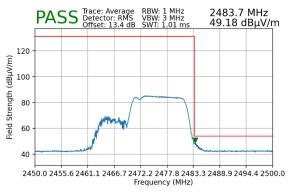


Worst Case Mode:	802.11be OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	83
Distance of Measurements:	3 Meters
Operating Frequency:	2467MHz
Channel:	12

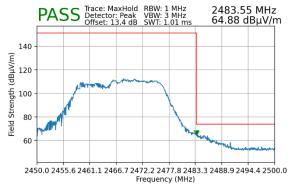


Plot 7-100. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106+26 Tones)

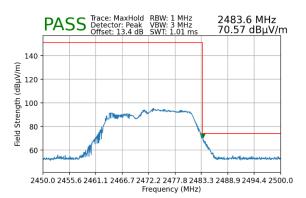
Worst Case Mode:	802.11be OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	83
Distance of Measurements:	3 Meters
Operating Frequency:	2472MHz
Channel:	13



Plot 7-102. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 106+26 Tones)



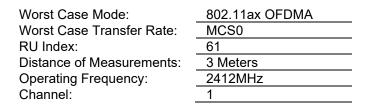


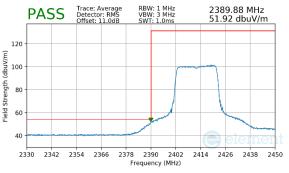


Plot 7-103. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 106+26 Tones)

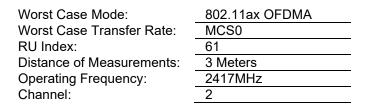
FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 92 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 82 of 86
© 2024 ELEMENT	•		V11.1 08/28/2023

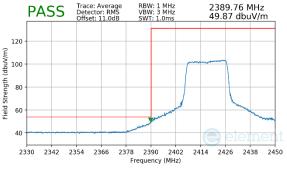




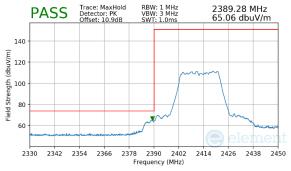


Plot 7-104. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 242 Tones)

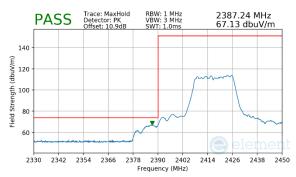




Plot 7-106. Radiated Restricted Lower Band Edge Measurement MIMO (Average – 242 Tones)





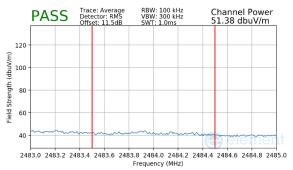


Plot 7-107. Radiated Restricted Lower Band Edge Measurement MIMO (Peak – 242 Tones)

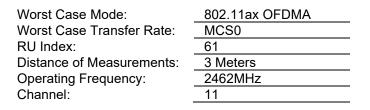
FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 92 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 83 of 86
© 2024 ELEMENT	•		V11.1 08/28/2023

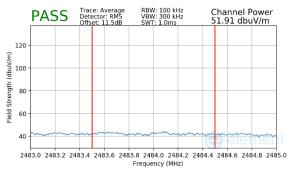


Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	2457MHz
Channel:	10

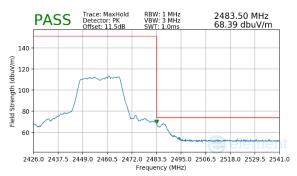


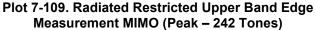
Plot 7-108. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)

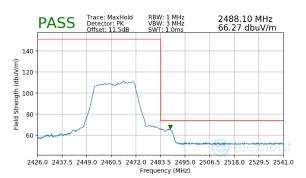




Plot 7-110. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)





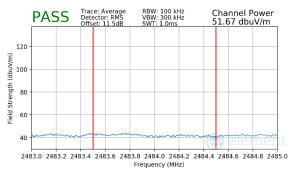


Plot 7-111. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 242 Tones)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 94 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 84 of 86
© 2024 ELEMENT			V11.1 08/28/2023

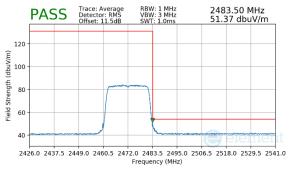


Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	2467MHz
Channel:	12

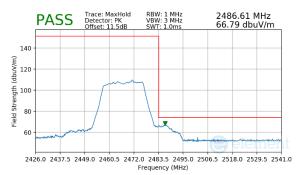


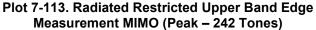
Plot 7-112. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)

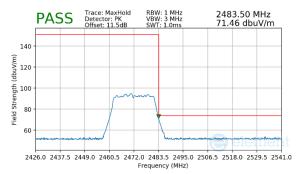
Worst Case Mode:	802.11ax OFDMA
Worst Case Transfer Rate:	MCS0
RU Index:	61
Distance of Measurements:	3 Meters
Operating Frequency:	2472MHz
Channel:	13



Plot 7-114. Radiated Restricted Upper Band Edge Measurement MIMO (Average – 242 Tones)







Plot 7-115. Radiated Restricted Upper Band Edge Measurement MIMO (Peak – 242 Tones)

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dage 95 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 85 of 86
© 2024 ELEMENT			V11.1 08/28/2023



8.0 CONCLUSION

The data collected relate only the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMS938JPN** is in compliance with Part 15 Subpart C (15.247) of the FCC Rules.

FCC ID: A3LSMS938JPN	MEASUREMENT REPORT		Approved by: Technical Manager
Test Report S/N:	Test Dates:	EUT Type:	Dega 96 of 96
1M2408260070-10.A3L	09/03/2024 - 10/25/2024	Portable Handset	Page 86 of 86
© 2024 ELEMENT			V11.1 08/28/2023