

Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2022-01-19	2023-01-19
Block - DC	Fairview Microwave	SD3235-2148	ANF	2022-05-27	2023-05-27
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXK	2021-09-13	2022-09-13

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer. The fundamental emission output power (maximum average conducted output power) was measured using the channels and modes as called out on the following data sheets. The transmit power was set to its default maximum.

The method in section 5.2.3.5 of ANSI C63.26 was used to make the peak detector measurements.

The Remote Radio Head (RRH) may operate as a 4 port MIMO transmitter with transmitter outputs connected to two cross-polarized antennas [two transmitter outputs are connected to (+) radiators and two transmitter outputs are connected to (-) radiators]. The measurement value of [10 log (2)] per FCC KDB 662911D01 v02r01, ANSI C63.26-2015 section 6.4.6.3 b)2) and KDB 662911 D02v01 page 3 example (2) (cross-polarized radiators) which is then subtracted against the total number of actual ports measured represented by ANSI C63.26 clauses 6.4.3.1 and 6.4.3.2.4 (10 Log Nout(4)). The resulting total output power adjustment for four port operation is -3dB [i.e.: 10 Log (2/4)].

The total peak transmit power of all antenna ports was determined per ANSI C63.26-2015 paragraph 6.4.3.1.

The EIRP PSD limit is defined by FCC Part 25.253(d)(1) as 31.9 - 10Log(number of carriers (4)) dBW/200kHz.



							TbtTx 2022.05.02.0	XMit 2022.02.07.0
EUT	TR44KA Base Station					Work Order:	MASY0006	
Serial Number	SV2146TR44KA000001					Date:	11-Aug-22	
Customer	Mavenir Systems, Inc					Temperature:	20.6 °C	
Attendees	None					Humidity:	59.3% RH	
Project	None					Barometric Pres.:	1021 mbar	
Tested by	Brandon Hobbs		Power: 48 VDC			Job Site:	TX09	
TEST SPECIFICAT	IONS		Test Method					
FCC 25:2022			ANSI C63.26:2015					
COMMENTS								
All conducted pati	n losses were accounted for	or: cables, attenuators, adapters, DC I	block and notch filter. The PA gain wa	is adjusted for a 16dBi	antenna (Final s	oftware value of 29).	The output power w	vas measured
for a single carrier	using typical worst case t	bandwidth and modulation of 5 MHz G	QPSK. The total output power for mul	tiport (2x2 MIMO and 4)	4 MIMO) operati	on was determined	based upon ANSI C	63.26 clauses
6.4.3.1 and 6.4.3.2.	4 (10 Log Nout(N)) - (10 Lo	g Cross Polarized corrected Port Cou	unt (CP)) = (10 Log CP/N). After the cr	oss polarization antenr	a consideration	s, the total output po	ower for all four port	operation -3dB
[i.e.: 10 Log(2/4)].	Worst Case Bandwidth and	d Resource Block / Offset configuration	ons was used. The operating duty cy	le was set at 100%. The	e all ports graphi	cal tables shwoing t	the actual calculation	ns are shown in
the tabular data.								
DEVIATIONS FRO	M TEST STANDARD							
None								
			a / .					
Configuration #	1		the flat					
		Signature						
				Initial PSD	Antenna	EIRP	Limit	
				Pwr (dBm/200kHz)	Gain (dBi)	(dBm/200kHz)	(dBm/200kHz)	Results
Antenna Port 1								
	5G NR, Band n24, SCS 15	kHz, 5 MHz BW						
	QPSK Modul	ation						
		Low Channel 1528.5 MHz						
		25 RB/0 Offset		15.143	16	31.1	55.9	Pass
		High Channel 1533.5 MHz						
		25 RB/0 Offset		15.070	16	31.1	55.9	Pass
Antenna Port 2								
	5G NR, Band n24, SCS 15	kHz, 5 MHz BW						
	QPSK Modul	ation						
		Low Channel 1528.5 MHz			10			_
		25 RB/0 Offset		14.349	16	30.3	55.9	Pass
		High Channel 1533.5 MHz						-
Antonio Dest O		25 RB/0 Offset		14.498	16	30.5	55.9	Pass
Antenna Port 3	50 ND Dead and 000 45							
	OPSK Modul	ation						
	QFSK MOUU	Low Choppel 1529 5 MHz						
		25 PB/0 Offset		14 880	16	30.0	55.0	Pass
		High Channel 1533 5 MHz		14.000	10	30.3	55.5	1 033
		25 RB/0 Offset		15 146	16	31.1	55.9	Pass
Antenna Port 4		20112/0 011001		10.110		0111	00.0	1 400
	5G NR, Band n24, SCS 15	kHz. 5 MHz BW						
	QPSK Modul	ation						
		Low Channel 1528.5 MHz						
		25 RB/0 Offset		14.064	16	30.1	55.9	Pass
		High Channel 1533.5 MHz						
		25 RB/0 Offset		14.077	16	30.1	55.9	Pass
All Ports								
	5G NR, Band n24, SCS 15	kHz, 5 MHz BW						
	QPSK Modul	ation						
		Low Channel 1528.5 MHz						
		25 RB/0 Offset		N/A	N/A	33.6	55.9	Pass
		High Channel 1533.5 MHz						
		25 RB/0 Offset		N/A	N/A	33.7	55.9	Pass



















All Ports, 5	G NR, Band n24,	SCS 15kHz, 5 MHz B	W, QPSK Modu	lation, Low Chanr	nel 1528.5 MHz, 2	25 RB/0 Offset
		Initial PSD	Antenna	EIRP	Limit	
		Pwr (dBm/200kHz)	Gain (dBi)	(dBm/200kHz)	(dBm/200kHz)	Results
		N/A	N/A	33.64	55.9	Pass
		1				

	Port 1	Port 2	Port 3	Port 4	All Ports	Cross Polarized Adj
dBm	31.1	30.3	30.9	30.1		
Watts	1.29	1.07	1.23	1.02		
Total dBm					36.64	33.64
Total Watts					4.61	2.31

All Ports, 50	G NR, Band n24,	SCS 15kHz, 5 MHz B	W, QPSK Modu	lation, High Chan	nel 1533.5 MHz, 3	25 RB/0 Offset
		Initial PSD	Antenna	EIRP	Limit	
		Pwr (dBm/200kHz)	Gain (dBi)	(dBm/200kHz)	(dBm/200kHz)	Results
		N/A	N/A	33.74	55.9	Pass

	Port 1	Port 2	Port 3	Port 4	All Ports	Cross Polarized Adj
dBm	31.1	30.5	31.1	30.1		
Watts	1.29	1.12	1.29	1.02		
Total dBm					36.74	33.74
Total Watts					4.72	2.37



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Block - DC	Fairview Microwave	SD3235-2148	ANF	2022-05-27	2023-05-27
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXK	2021-09-13	2022-09-13
Chamber - Temperature/Humidity	Cincinnati Sub Zero (CSZ)	ZPH-8-2-SCT/AC	TBH	NCR	NCR
Thermometer	Omega Engineering, Inc.	HH311	DUI	2021-02-02	2024-02-02
Meter - Multimeter	Fluke	77 IV	MLT	2020-10-15	2023-10-15

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and a spectrum analyzer.

The spectrum analyzer is equipped with a precision frequency reference that exceeds the stability requirement of the EUT.

Per FCC part 25.202(d), the limit specifies 0.001% of the reference frequency which is equivalent to 10 ppm.

Variation of Supply Voltage

The primary supply voltage was varied from 85% to 115% of the nominal voltage. A DC lab supply was used to vary the supply voltage.

Variation of Ambient Temperature

Using a temperature chamber, the transmit frequency was recorded at the extremes of the specified temperature range (-30° to +50° C) and at 10°C intervals.



							TbtTx 2022.05.02.0	XMit 2022.02.07.0
EUT	TR44KA Base Station					Work Order:	MASY0006	
Serial Number:	SV2146TR44KA000001					Date:	12-Aug-22	
Customer	Mavenir Systems, Inc					Temperature:	22.7 °C	
Attendees	None					Humidity:	50.3% RH	
Project	None Brenden Habbe		Bauran 48 MDC			Barometric Pres.:	TV00	
TEST SPECIFICAT			Power: 48 VDC			Job Site:	1703	
ECC 25-2022	10113							
100 23.2022			ANSI 603.20.2015					
COMMENTS								
The worst case po	wer port was tested							
ine neier case pe	noi port nuo tootoui							
DEVIATIONS FROM	M TEST STANDARD							
None								
			1 1 1					
Configuration #	3	O'rea a trans	frit fart					
		Signature	, ₁ –	Mongurod	Accianad	Error	Limit	
				Value (MHz)	Value (MHz)	(nnm)	(nnm)	Results
5G NR Band n24 (.W			Value (III12)	Value (IIII IZ)	(ppm)	(ppm)	Results
oo nin, band ne i, t	Voltage: 115%							
	5 MHz BW, L	ow Ch. 1528.5 MHz		1528.501765	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.495087	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1531.001759	1531	1.2	10	Pass
	Voltage: 100%							
	5 MHz BW, L	_ow Ch. 1528.5 MHz		1528.501772	1528.5	1.2	10	Pass
	5 MHz BW, F	High Ch. 1533.5 MHz		1533.495121	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1531.001779	1531	1.2	10	Pass
	Voltage: 85% 5 MHz BW/ L	ow Ch. 1528 5 MHz		1528 501778	1528.5	12	10	Pass
	5 MHz BW, L	High Ch. 1528.5 MHz		1533 4951	1528.5	3.2	10	Pass
	10 MHz BW	Mid Ch 1531 MHz		1531 001782	1531	1.2	10	Pass
	Temperature: +50°			10011001102	1001		10	1 400
	5 MHz BW, L	ow Ch. 1528.5 MHz		1528.501766	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.501732	1533.5	1.1	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1530.995074	1531	3.2	10	Pass
	Temperature: +40°							
	5 MHz BW, L	_ow Ch. 1528.5 MHz		1528.501718	1528.5	1.1	10	Pass
	5 MHZ BW, F	High Ch. 1533.5 MHz		1533.501762	1533.5	1.2	10	Pass
	Temperature: ±30°	Mid Ch. 1531 MHZ		1220.992062	1531	3.2	10	Pass
	5 MHz BW/ I	ow Cb 1528 5 MHz		1528 501772	1528 5	12	10	Pass
	5 MHz BW, F	High Ch. 1533.5 MHz		1533.495101	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1530.995098	1531	3.2	10	Pass
	Temperature: +20°							
	5 MHz BW, L	_ow Ch. 1528.5 MHz		1528.501769	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.495121	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1531.001775	1531	1.2	10	Pass
	Temperature: +10°	aw Ch. 4520 5 Mile		4500 504770	4500.5	10	10	Deee
	5 MHZ BW, L	LOW CI1. 1526.5 MHz		1526.501772	1520.5	1.2	10	Pass
	10 MHz BW	Mid Ch 1531 MHz		1531 001785	1531	1.2	10	Pass
	Temperature: 0°			10011001100	1001		10	1 400
	5 MHz BW, L	ow Ch. 1528.5 MHz		1528.501773	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.495098	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1531.001759	1531	1.2	10	Pass
	Temperature: -10°							
	5 MHz BW, L	_ow Ch. 1528.5 MHz		1528.501751	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.495097	1533.5	3.2	10	Pass
	Tomporature: 20°	WIG Ch. 1531 MHZ		1531.001752	1531	1.1	10	Pass
	5 MHz PM/ 1	ow Cb. 1528 5 MHz		1528 501765	1528.5	12	10	Pass
	5 MHz BW, L	High Ch. 1533.5 MHz		1533.495097	1533.5	3.2	10	Pass
	10 MHz BW.	Mid Ch. 1531 MHz		1531.001762	1531	1.2	10	Pass
	Temperature: -30°							
	5 MHz BW, L	ow Ch. 1528.5 MHz		1528.501772	1528.5	1.2	10	Pass
	5 MHz BW, H	High Ch. 1533.5 MHz		1533.495104	1533.5	3.2	10	Pass
	10 MHz BW,	Mid Ch. 1531 MHz		1531.001775	1531	1.2	10	Pass





	JOINT, Dai	10 1124, 677, 7016	aye. 115%, 510F	12 DVV, HIGH CH.	1000.0 10112	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1533.495087	1533.5	3.2	10	Pass

Keysight Spe	ctrum Analy	/zer - Element I	Aaterials Technol	ogy							
RL	RF	50 Ω DC			S	ENSE:INT	AL	IGN AUTO	Maltana	08:44:18	3 AM Aug 13, 20
				PNO: Close FGain:Low	Ģ	Trig: Free F #Atten: 30 (Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	Ir	TYPE M WWW DET PPPP
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	,	Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1528.501772	1528.5	1.2	10	Pass







	5G NR, Ba	and n24, CW, Vol	tage: 100%, 10 N	IHz BW, Mid Ch.	1531 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1531.001779	1531	1.2	10	Pass

Key	sight Spe	trum Ana	lyzer - Elemer	t Materials Te	echnology							
C RL		RF	50 Ω	DC 0		SI	ENSE:INT	AL	LIGN AUTO		08:54:54	AM Aug 13, 202
					PNO: Close IFGain:Low	Ģ	Trig: Free R #Atten: 30 d	un B	#Avg Type: Avg Hold:>	Voltage 100/100	TT.	ACE 1 2 3 4 5 TYPE M
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SG									STATUS			





	DG INK, Da	and 1124, CVV, VOI	lage. 05%, 5 IVIII.	z Бvv, пign Cn. т	555.5 IVITZ	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1533.4951	1533.5	3.2	10	Pass

RL	RE	50 Q DC		,,	S	ENSEIINT	Δι	IGN AUTO		08:48:0	AM Aug 13, 202
		0012 00	P	NO: Close Gain:Low	P	Trig: Free R #Atten: 30 d	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	TF	ACE 1 2 3 4 5 TYPE MWWWW DET P P P P P
0 dB/div	Ref 9.0	00 dBm						1	Mkr1 1	.533 495 -11.	100 GH: 179 dBn
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Res BW	510 Hz			#	VBV	V 1.5 kHz			Swee	36.99 m	s (3000 pt





	5G NR, Band n24, CW, Temp	erature: +50°, 5 ľ	VIHZ BVV, LOW Ch	. 1528.5 MHz	
	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1528.501766	1528.5	1.2	10	Pass







	5G NR, Band n	24, CW, Temp	perature: +50°, 10) MHZ BW, Mid C	h. 1531 MHz	
		Measured	Assigned	Error	Limit	
	,	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1	1530.995074	1531	3.2	10	Pass







	5G NR, Band n24	I, CW, Tempe	erature: +40°, 5 N	/IHz BW, High Ch	. 1533.5 MHz	
	1	Measured	Assigned	Error	Limit	
	V	alue (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	15	533.501762	1533.5	1.2	10	Pass

Keysight Spe	ctrum Analyze	er - Element Materia	als Technology		er vere verel	Г				
RL	RF	50 Ω DC	PNO: Close IFGain:Low	, s	Trig: Free F #Atten: 30 (Lun 1B	#Avg Type: Avg Hold:>	Voltage 100/100	03:14:37 TF	PM Aug 13, 202 ACE 1 2 3 4 5 TYPE M DET P P P P P
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tes BW	510 Hz		#	VBV	V 1.5 kHz			Sweep	5 36.99 ms	(3000 p
3							STATUS			





	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1528.501772	1528.5	1.2	10	Pass







	,	Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1530.995098	1531	3.2	10	Pass

Keysight S	ectrum Anal	yzer - Element N	Aaterials Technol	ogy							
RL	RF	50 Ω DC			S	ENSE:INT	AL	IGN AUTO		03:10:07	PM Aug 13, 2022
	-			PNO: Close IFGain:Low	Ģ	Trig: Free F #Atten: 30	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	AT T	ACE 1 2 3 4 5 YPE M WWW DET P P P P P
0 dB/div	Ref 9.	.00 dBm							Mkr1 1	.530 995 -11.	098 GH: 197 dBn
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enter 1 Res BW	530995 510 Hz	283 GHz		#	VBV	V 1.5 kHz	5		Sweep	Spar 36.99 ms	10.00 kH (3000 pts
SG								STATUS			





	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1533.495121	1533.5	3.2	10	Pass







	oo nii, bana	Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1528.501772	1528.5	1.2	10	Pass

Keysight S	ipectrum An	alyzer - Element I	Materials Technol	ogy							
RL	RF	50 Ω DC			SI	ENSE:INT	AL	IGN AUTO		09:11:24	AM Aug 13, 202
	-			PNO: Close IFGain:Low	Ģ	Trig: Free I #Atten: 30	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	AT T	ACE 1 2 3 4 5 TYPE M WWWM DET P P P P P
0 dB/div	Ref	8.00 dBm					-		Mkr1 1	.528 501 -11.	772 GH: 355 dBn
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enter 1 Res BV	.52850 V 510 H	1984 GHz z		#	VBV	1.5 kHz			Sweep	Spar 36.99 <u>ms</u>	10.00 kH (3000 pt
ig .								STATUS			





	SG INR, Danc	a nz4, Gvv, Temp	erature. +10, 10			
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1531.001785	1531	1.2	10	Pass

USC						STATUS			
Center 1. #Res BW	531001950 GHz 510 Hz	#	¢VB₩	/ 1.5 kHz			Sweer	Span 36.99 ms	10.00 kHz (3000 pts
-81.0							~~~~~		\sim
-71.0						\sim			
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1.00									
10 dB/div Log	Ref 9.00 dBm					1		-11.	203 dBn
		PNO: Close IFGain:Low	ц.	#Atten: 30	dB	, ang inola.	Mired 4	524 004	
	10 20 32 00			Trig: Free F	Pun	#Avg Type:	Voltage	09.13.00 TR	ACE 1 2 3 4 5
Keysight Sp	ectrum Analyzer - Element	Materials Technology		NCLINT				00:12:00	





	SG NR, Dan	u nz4, Cvv, Temp	perature. 0, 5 Mi	$\square Z \square V V, \square U U U U.$	1533.5 10172	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1533.495098	1533.5	3.2	10	Pass

Keysight Sp	ectrum Analyzer - Elemer	nt Materials Technolo	ду						
XI RL	RF 50 Ω [DC OC		SENSE:INT	AL	IGN AUTO		10:07:13	AM Aug 13, 2022
		P	NO: Close G FGain:Low	Trig: Free #Atten: 30	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	TR T	ACE 1 2 3 4 5 YPE MWWWW DET P P P P P
10 dB/div	Ref 9.00 dBm	1					Mkr1 1	.533 495 -11.	098 GHz 361 dBm
.1 00									
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Center 1. #Res BW	533495283 GH: 510 Hz	Z	#V	BW 1.5 kHz	A	1	Sweep	Span 36.99 ms	10.00 kHz (3000 pts
ISG						STATUS			





	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1528.501751	1528.5	1.2	10	Pass

Reysignt spe	ctrum Anal	yzer - Element l	viaterials Technol	ogy		an an an an	т				
RL	KF	50 Ω DC			5	ENSE:INT	A		Maltana	10:16:55	AM Aug 13, 20
				PNO: Close IFGain:Low	₽	Trig: Free I #Atten: 30	Run dB	#Avg Type: Avg Hold:>	100/100	T T	YPE MWWW DET PPPP
dB/div	Ref 8	.00 dBm							Mkr1 1	.528 501 -11.	751 GF 723 dBi
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nter 1.5	28501	883 GHz		#	VBV	1 5 kHz			Sweer	Span 36 99 ms	10.00 k
03 011	010112			"					Oweek	00.00 1113	(0000 pi





	5G NR, Band	an 24, CW, Temp	perature: -10°, 10	) MHz BW, Mid Cl	h. 1531 MHz	
		Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1531.001752	1531	1.1	10	Pass

Keysight Sp	pectrum Ana	alyzer - Element	Materials Techno	ology							
RL	RF	50 Ω DC			S	ENSE:INT	AL	IGN AUTO		10:18:41	AM Aug 13, 20
				PNO: Close IFGain:Low	Ģ	Trig: Free I #Atten: 30	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	IF	DET PPPF
dB/div	Ref 8	3.00 dBm							Mkr1 1	.531 001 -11.	752 GF 874 dB
9											
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.0 0.											
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nter 1. tes BW	531001 510 H	1917 GHz z		#	VBV	V 1.5 kHz			Sween	Spar 36.99 ms	10.00 kl
-								4			





	Meas	ured Assi	gned Erro	r Limit	:
	Value	MHz) Value	(MHz) (ppm	i) (ppm	) Results
	1533.49	95097 153	33.5 3.2	10	Pass

Keysight Spe	ectrum Analyzer - Ele	ment Materials	lechnology							
KL	RF   50 \$,	DC		5	ENSE:INT	A	#Ava Type	· Voltage	10:55:0	AM AUG 13, 20.
			PNO: Close IFGain:Low	Ģ	Trig: Free Ro #Atten: 30 d	un B	Avg Hold:>	>100/100		TYPE MWWWW DET PPPPF
dB/div	Ref 8.00 d	Bm						Mkr1 1	1.533 495 -11.	097 GH 858 dBr
9					Ť					
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enter 14	5334952827	SH7							Spar	10 00 k
les BW	510 Hz	51112	#	VBV	V 1.5 kHz			Swee	p 36.99 m	s (3000 p
							T- CTATUS			





	,	Measured	Assigned	Error	Limit	
		Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
		1528.501772	1528.5	1.2	10	Pass

Keysight Spe	ctrum Analy	zer - Element N	Aaterials Technol	ogy							
RL	RF	50 Ω DC			S	ENSE:INT	AL	IGN AUTO		11:32:33	8 AM Aug 13, 202
				PNO: Close IFGain:Low	Ģ	Trig: Free F #Atten: 30 (Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	TF	ACE 1 2 3 4 5 TYPE M
0 dB/div	Ref 8.	00 dBm							Mkr1 1	.528 501 -11.	772 GH 982 dBn
09											
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enter 1.5 Res BW	5285019 510 Hz	17 GHz		#	VBV	V 1.5 kHz			Sweep	Spar 36.99 ms	n 10.00 kH s (3000 pt
G								STATUS			





	Measured	Assigned	Error	Limit	
	Value (MHz)	Value (MHz)	(ppm)	(ppm)	Results
	1531.001775	1531	1.2	10	Pass

Keysight Sp	ectrum Analyzer - Element	Materials Technology							
XI RL	RF 50 Ω D0			SENSE:INT	Al	LIGN AUTO		11:34:09	AM Aug 13, 2022
		PNC IFG): Close 😱 ain:Low	Trig: Free #Atten: 30	Run dB	#Avg Type: Avg Hold:>	Voltage 100/100	TR T	ACE 1 2 3 4 5 TYPE MWWWW DET PPPPP
10 dB/div	Ref 9.00 dBm						Mkr1 1	.531 001 -11.	775 GH: 387 dBn
1.00									
-1.00				▲1					
11.0									
-21.0									
31.0				/					
41.0			/						
51.0									
61.0									
71.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	\sim				·		\sim
81.0								~~~~	
Center 1. #Res BW	531001950 GHz 510 Hz		#VB	W 1.5 kHz			Sweep	Span 36.99 <u>ms</u>	10.00 kH (3000 pts
ISG						STATUS			



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2022-01-19	2023-01-19
Block - DC	Fairview Microwave	SD3235-2148	ANF	2022-05-27	2023-05-27
Cable	UtiFlex Micro-Coax	1150A-1-0720-200	TXK	2021-09-13	2022-09-13
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The method in section 5.4 of ANSI C63.26 was used to make this measurement. The spectrum analyzer settings were as follows:

- RBW is 1% 5% of the occupied bandwidth
- VBW is ≥ 3x the RBW
- Peak Detector was used
- Trace max hold was used

The 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band. FCC 2.1049 defines the occupied bandwidth to be the 99% bandwidth.

RF conducted emissions testing was performed only on one port. Remote Radio Head (RRH) antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown during output power testing on 4 ports) and antenna port 3 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i, 6.4.

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.



						TbtTx 2022.06.03.0	XMit 2022.02.07.0	
EUT:	TR44KA Base Station				Work Order:	MASY0006		
Serial Number:	SV2146TR44KA000001				Date:	10-Aug-22		
Customer:	Mavenir Systems, Inc				Temperature:	20.9 °C		
Attendees:	None				Humidity:	56.3% RH		
Project:	None			Barometric Pres.: 1020 mbar				
Tested by:	Brandon Hobbs	Power:	48 VDC		Job Site:	TX09		
TEST SPECIFICAT	IONS		Test Method					
FCC 25:2022			ANSI C63.26:2015					
COMMENTS								
All conducted path	losses were accounted for: cables, attenuators, adapters, DC b	block and notch filte	r. The Widest Resource Blo	ck / Offset configuration wa	s used per bandwi	dth. The PA gain wa	s adjusted for a	
3dBi antenna (Fina	I software value of 42).							
DEVIATIONS FROM	I TEST STANDARD							
None								
Configuration #	1 Signature	7	Jarl					
				Value 99% (MHz)	Value 26dB (MHz)	Limit	Result	
5G NR, Band n24, S	SCS 15kHz			· ·				
	5 MHz Bandwidth							
	QPSK Modulation							
	Low Channel 1528.5 MHz							
	25 RB/0 Offset			4.50	4.92	Within Band	Pass	
	High Channel 1533.5 MHz							
	25 RB/0 Offset			4.51	4.90	Within Band	Pass	
	16-QAM Modulation							
	Low Channel 1528.5 MHz							
	25 RB/0 Offset			4.50	4.91	Within Band	Pass	
	High Channel 1533.5 MHz							
	25 RB/0 Offset			4.50	4.89	Within Band	Pass	
	64-QAM Modulation							
	Low Channel 1528.5 MHz						_	
	25 RB/0 Offset			4.49	4.87	Within Band	Pass	
	High Channel 1533.5 MHz						_	
	25 RB/0 Offset			4.49	4.87	Within Band	Pass	
	256-QAM Modulation							
	Low Channel 1528.5 MHz			4.54	4.00	Millio Deed	Deve	
	25 KB/U Uffset			4.51	4.90	within Band	Pass	
				4.54	4.00	Within Dand	Deee	
	10 Mills Departuidth			4.51	4.90	Within Band	Pass	
	OPSK Modulation							
	Mid Channel 1531 MHz							
	52 RB/0 Offset			9.31	9.91	Within Band	Pass	
	16-QAM Modulation			0.01	0.01	Trianin Baria	1 400	
	Mid Channel 1531 MHz							
	52 RB/0 Offset			9.23	9.88	Within Band	Pass	
	64-QAM Modulation							
	Mid Channel 1531 MHz							
	52 RB/0 Offset			9.24	9.89	Within Band	Pass	
	256-QAM Modulation							
	Mid Channel 1531 MHz							
	52 RB/0 Offset			9.23	9.88	Within Band	Pass	





01:56:40 PM Jun 17, 2022 Radio Std: None Keysight Sp als Technology - Points: 3000, Detector: Peak Center Freq: 1.533500000 GHz Trig: Free Run Avg #Atten: 30 dB RL Avg|Hold:>50/50 #IFGain:Low Radio Device: BTS Ref Offset 40.9 dB Ref 43.00 dBm 10 dB/div Center 1.533500 GHz #Res BW 100 kHz Span 15.00 MHz Sweep 1.599 ms #VBW 300 kHz Total Power 38.6 dBm **Occupied Bandwidth** 4.5081 MHz Transmit Freq Error -9.364 kHz % of OBW Power 99.00 % 4.896 MHz x dB Bandwidth x dB -26.00 dB **I**STATUS











Keysight Spect	trum Analyzer - Element Mate	rials Technology - Points: 30t	10, Detector: Peak		
IXI RL	RF 50 Ω DC		SENSE:INT	ALIGN OFF	02:11:20 PM Jun 17, 2022
			Center Freq: 1.5335000	00 GHz	Radio Std: None
		#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
	Ref Offset 40.9 dB	3			
10 dB/div	Ref 44.00 dBm				
24.0					
34.0					
24.0			and realized and a second a second a second a	m	
14.0					
4.00					
-6.00					
46.0					
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-26.0	الا تصديدين وي				
-36.0					
-46.0		<u></u>		المحاكد وحرب	
L					
Center 1.5	33500 GHz				Span 15.00 MHz
#Res BW	100 KHz		#VBW 300 ki	IZ	Sweep 1.599 ms
Occup	ied Bandwidt	h	Total Power	38.9 dBm	
	1	1877 MHz			
	41				
Transm	it Freq Error	-5.925 kHz	% of OBW Powe	r 99.00 %	
v dB Ba	ndwidth	4 974 MU-	x dP	26.00 dB	
х ив ва	mawiam	4.074 MHZ	хив	-20.00 aB	
MSG				STATUS	





Keysight Specific Keysight	ectrum Analyzer - Element Materi	ials Technology - Points: 3000,	Detector: Peak		
LXI RL	RF 50 Ω DC		SENSE:INT A	LIGN AUTO	02:23:19 PM Jun 17, 2022
			Center Freq: 1.53350000	00 GHz	Radio Std: None
		↔ #IFGain:Low	, Trig: Free Run #Atten: 30 dB	Avg Hold: 50/50	Radio Device: BTS
10 dB/div	Ref Offset 40.9 dB Ref 45.00 dBm				
Log					
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5.00					
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-15.0					
-25 0	mmmmmmmmmmmm	man		homenon	man mar and a second and a second
20.0					
-35.0					
-45.0					
l					
Center 1.	533500 GHz				Span 15.00 MHz
#Res BW	100 kHz		#VBW 300 kH	Z	Sweep 1.599 ms
Occu	pied Bandwidth		Total Power	38.9 dBm	
	4.5				
Transı	mit Freq Error	1.891 kHz	% of OBW Powe	r 99.00 %	
v dB B	andwidth	4 901 MHz	v dB	-26 00 dB	
		4.501 11112	X UB	-20.00 dB	
MSG				Ta STATUS	





Keysight Spect	trum Analyzer - Element Mate	rials Technology - Points: 3000), Detector: Peak		
(XI RL	RF 50 Ω DC	- #IFGain:Low	SENSE:INT Center Freq: 1.5310000 Trig: Free Run #Atten: 30 dB	ALIGN AUTO 00 GHz Avg Hold:>50/50	01:50:57 PM Jun 18, 2022 Radio Std: None Radio Device: BTS
10 dB/div	Ref Offset 40.9 dE Ref 44.00 dBm				
34.0					
24.0 14.0		Mundow	gan and a start of the start of	manan	
4.00		/			
-6.00					
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-36.0					
-46.0					On on 25 00 Milia
#Res BW	200 kHz		#VBW 620 ki	lz	Sweep 1.2 ms
Occup	ied Bandwidtl	า	Total Power	39.0 dBm	
	9.2	2287 MHz			
Transm	it Freq Error	-28.840 kHz	% of OBW Powe	er 99.00 %	
x dB Ba	ndwidth	9.880 MHz	x dB	-26.00 dB	
NSO					
mag				NO STATUS	





🛄 Key	sight Spectrum Ar	nalyzer - Element N	Aaterials Technolog	y - Points: 3000, De	etector: Peak					
LXI RL	- RF	50 Ω DC			SENSE:INT	ALI	GN AUTO		01:58:00	5 PM Jun 18, 2022
			#IF(Gain:Low	Center Freq Trig: Free R #Atten: 30 d	: 1.531000000 un B	GHz Avg Hold:	50/50	Radio Std: N Radio Devic	lone e: BTS
10 dE	R B/div R	ef Offset 40.9 ef 45.00 dE	dB 8m							
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#Dor	BM 200	/ GHZ // H7			#\/B)	M 620 kHz			Span	23.00 MIHZ
"RG	3 844 200	RI 12			#VD1	W 020 KH2			300	ep 1.2 ms
0	ccupied	Bandwig	ith		Total Po	wer	38.9 d	Bm		
	oouprou	Daniania								
		9	.2290 I	VIHZ						
Т	ansmit F	rea Error	-30.11	2 kHz	% of OB	W Power	99.0	0 %		
			0.00				00.00	-10		
X	dB Bandy	viath	9.88	3 MHZ	хав		-26.00	aв		
MSG							STATUS			
Contracting (State										



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2022-01-19	2023-01-19
Block - DC	Fairview Microwave	SD3235-2148	ANF	2022-05-27	2023-05-27
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXK	2021-09-13	2022-09-13
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The method in section 5.4 of ANSI C63.26 was used to make this measurement. The spectrum analyzer settings were as follows:

- RBW is 1% 5% of the occupied bandwidth
- VBW is \geq 3x the RBW
- Peak Detector was used
- Trace max hold was used

The 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band. FCC 2.1049 defines the occupied bandwidth to be the 99% bandwidth.

RF conducted emissions testing was performed only on one port. Remote Radio Head (RRH) antenna ports are essentially electrically identical (the RF power variation between antenna ports is small as shown during output power testing on 4 ports) and antenna port 3 was selected to perform the testing under this effort as allowed by ANSI C63.26-2015 paragraphs 5.2.5.3, 5.7.2i, 6.4.

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.



					TbtTx 2022.05.02.0	XMit 2022.02.07.0	
EUT:	TR44KA Base Station			Work Order:	MASY0006		
Serial Number:	SV2146TR44KA000001			Date:	10-Aug-22		
Customer:	Mavenir Systems, Inc			Temperature:	21.1 °C		
Attendees:	None			Humidity:	57.4% RH		
Project:	None		Barometric Pres.: 1021 mbar				
Tested by:	Brandon Hobbs	Power: 48 VDC		Job Site:	TX09		
TEST SPECIFICAT	IONS	Test Method					
FCC 25:2022		ANSI C63.26:2015					
COMMENTS							
All conducted path	h losses were accounted for: cables, attenuators, adapters, DC	block and notch filter. The Widest Resource Block / Off	fset configuration wa	as used per bandwi	dth. The PA gain wa	as adjusted for a	
16dBi antenna (Fin	nal software value of 29).						
DEVIATIONS FROM	M TEST STANDARD						
None							
		1 1 1					
Configuration #		for fort					
	Signature	$l \simeq$					
			Value	Value	Lineit	Decult	
FC ND Dand n24 C			99% (MHZ)		Limit	Result	
bG NR, band n24, c	505 IDKHZ						
	Low Channel 1528 5 MHz						
	25 RB/0 Offset		4 51	4 92	Within Band	Pass	
	High Channel 1533 5 MHz		4.51	4.52	Within Dand	1 833	
	25 RB/0 Offset		4 52	4 90	Within Band	Pass	
	16-QAM Modulation		1.02		Than Bana	1 400	
	Low Channel 1528.5 MHz						
	25 RB/0 Offset		4.50	4.91	Within Band	Pass	
	High Channel 1533.5 MHz						
	25 RB/0 Offset		4.50	4.89	Within Band	Pass	
	64-QAM Modulation						
	Low Channel 1528.5 MHz						
	25 RB/0 Offset		4.49	4.87	Within Band	Pass	
	High Channel 1533.5 MHz						
	25 RB/0 Offset		4.50	4.91	Within Band	Pass	
	256-QAM Modulation						
	Low Channel 1528.5 MHz		1.50	1.00		_	
	25 KB/0 Offset		4.53	4.90	Within Band	Pass	
	High Unannei 1533.5 MHZ		4.62	4.90	Within Bond	Boog	
	25 RB/0 Oliset		4.52	4.09	within band	Pass	
	OPSK Modulation						
	Mid Chappel 1531 MHz						
	52 RB/0 Offset		9.35	9.93	Within Band	Pass	
	16-QAM Modulation		0.00	0.00	Contra and	1 400	
	Mid Channel 1531 MHz						
	52 RB/0 Offset		9.28	9.91	Within Band	Pass	
	64-QAM Modulation						
	Mid Channel 1531 MHz						
	52 RB/0 Offset		9.29	9.94	Within Band	Pass	
	256-QAM Modulation						
	Mid Channel 1531 MHz						
	52 RB/0 Offset		9.29	9.92	Within Band	Pass	





Keysight Sp	ectrum Analyzer - Element Mater	ials Technology - Points: 3000, D	etector: Peak		
LXI RL	RF 50 Ω DC		SENSE:INT A	LIGN AUTO	08:04:28 AM Jul 01, 2022
			Center Freq: 1.53350000	0 GHz	Radio Std: None
		+→- #IFGain:Low	#Atten: 30 dB	Avg Hold:>50/50	Radio Device: BTS
	Ref Offset 40.9 dB				
10 dB/div	Ref 31.00 dBm				
Log					
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moun	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mannorma		monorman	man and the second the
-29.0					
-39.0					
-49.0					
-59.0					
Center 1	.533500 GHz				Span 15.00 MHz
#Res BW	/ 100 kHz		#VBW 300 kH	Z	Sweep 1.599 ms
Occu	pied Bandwidth	1	Total Power	26.4 dBm	
	4.5	5191 MHz			
Trans	mit Erea Error	-4 020 kHz	% of OBW Powe	r 99.00%	
ITuns		-4.520 KHZ		00.00 /0	
x dB E	Bandwidth	4.895 MHz	x dB	-26.00 dB	
MSG				To STATUS	





Keysight S	pectrum Analyzer - Element Mater	ials Technology - Points: 3000, I	Detector: Peak		
XI RL	RF 50 Ω DC		SENSE:INT	ALIGN AUTO	08:45:09 AM Jul 01, 2022
			Center Freq: 1.5335000 Trig: Free Run	000 GHz Avg Hold: 50/50	Radio Std: None
		#IFGain:Low	#Atten: 30 aB		Radio Device: B I S
10 dBidiy	Ref Offset 40.9 dB Ref 31 00 dBm				
Log	Ref 51.00 dBill				
21.0					
11.0		mund	man man man	m	
1.00					
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10.0					
mann	mmmun	www.www.w		mound	www.warming.com.com.com.com.com.
-29.0					
-39.0					
-49.0					
-59.0					
	500500 011				
#Res BW	.533500 GHZ / 100 kHz		#VBW_300 ki	Hz	Span 15.00 MHz Sweep 1.599 ms
Occu	pied Bandwidth	1	Total Power	26.3 dBm	
	4.5	5032 MHz			
Trans	mit Freq Error	4.104 kHz	% of OBW Powe	er 99.00 %	
v dB B	Bandwidth	/ 802 MHz	v dB	-26 00 dB	
		4.002 11112		20.00 00	
MSG				STATUS	
and the second se					











M RL RF 50 Ω DC SENSE:INT Center Freq: 1.	ALIGN AUTO 10:22:35 AM Jul 01, 2022
🛶 Trig: Free Run	Avg Hold:>50/50 Radio Std: None
#IFGain:Low #Atten: 30 dB	Radio Device: BTS
Ref Offset 40.9 dB 10 dB/div Ref 32.00 dBm	
22.0	
12.0	annime
2.00	
-8.00	
-18.0	Ma franciski mana stanin massarian
-28.0	
-38.0	
-48.0	
-58.0	
Center 1.533500 GHz #Res BW 100 kHz #VBW	Span 15.00 MHz 300 kHz Sweep 1.599 ms
Occupied Bandwidth Total Pow	er 26.3 dBm
4.5218 MIHZ	
Transmit Freq Error 1.016 kHz % of OBW	Power 99.00 %
x dB Bandwidth 4.890 MHz x dB	-26.00 dB
MSG	STATUS





Keysight Sp	ectrum Analyzer - Element Mat	erials Technology - Points: 3000,	Detector: Peak		
LXI RL	RF 50 Ω DC		SENSE:INT	ALIGN AUTO	08:41:54 AM Jul 02, 2022
			Center Freq: 1.531000	000 GHz	Radio Std: None
		↔ #IFGain:Low	, Trig: Free Run #Atten: 30 dB	Avg Hold:>50/50	Radio Device: BTS
10 dB/div	Ref Offset 40.9 d Ref 31.00 dBn	B N			
Log					
21.0					
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-29.0					
-39.0					
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-59 በ					
0010					
Center 1.	53100 GHz				Span 25.00 MHz
#Res BW	200 kHz		#VBW 620 k	(Hz	Sweep 1.2 ms
Occu	pied Bandwidt	h	Total Power	26.3 dBm	
	9	2793 MHz			
	0.				
Trans	mit Freq Error	-14.243 kHz	% of OBW Pow	ver 99.00 %	
x dB F	Randwidth	9 907 MHz	x dB	-26 00 dB	
	Junamatin	0.001 11112		20.00 48	
MSG				STATUS	
CONTRACTOR DESCRIPTION OF THE PARTY OF				And an and the Construction of	





Keysight Spec	trum Analyzer - Element Ma	terials Technology - Points: 3000,	Detector: Peak		
LXI RL	RF 50 Ω DC		SENSE:INT A	LIGN AUTO	08:49:20 AM Jul 02, 2022
			Center Freq: 1.53100000	0 GHz	Radio Std: None
		++ #IFGain:Low	Atten: 30 dB	Avg Hold: 50/50	Radio Device: BTS
10 dB/div	Ref Offset 40.9 c Ref 32.00 dBi	n n			
22.0					
12.0					
2.00					
-8.00		/			
-18.0 Marrow	and the second	whethermore			and the second and th
-28.0					
-38.0					
-48.0					
-58.0					
Center 1.5 #Res BW	3100 GHz 200 kHz		#VBW 620 kH	z	Span 25.00 MHz Sweep 1.2 ms
Occup	ied Bandwid	th	Total Power	26.2 dBm	
	9.	.2871 MHz			
Transm	nit Freq Error	-14.206 kHz	% of OBW Powe	r 99.00 %	
x dB Ba	andwidth	9.915 MHz	x dB	-26.00 dB	
MSG				STATUS	



Testing was performed using the mode(s) of operation and configuration(s) noted within the report. The individuals and/or the organization requesting the test provided the modes, configurations and settings used to complete the evaluation. The actual test parameters are specified in the test data, this includes items such as investigated frequency range (scanned) and test levels. The testing methods and performance specifications, as well as the test site used for the evaluation are indicated in the test data.

TEST EQUIPMENT

Description	Manufacturer	Model	ID	Last Cal.	Cal. Due
Analyzer - Spectrum Analyzer	Keysight	N9010A	AFN	2022-01-19	2023-01-19
Block - DC	Fairview Microwave	SD3235-2148	ANF	2022-05-27	2023-05-27
Generator - Signal	Agilent	N5173B	TIW	2020-07-17	2023-07-17
Cable	UtiFlex Micro-Coax	UFD1150A-1-0720-200200	TXK	2021-09-13	2022-09-13

TEST DESCRIPTION

The measurement was made using a direct connection between the RF output of the EUT and the spectrum analyzer. The method in section 5.4 of ANSI C63.26 was used to make this measurement. The spectrum analyzer settings were as follows:

RBW is 1% - 5% of the occupied bandwidth

VBW is ≥ 3x the RBW

- Peak Detector was used
- Trace max hold was used

The 99% bandwidth was measured utilizing the analyzer's peak detector and measuring the carrier's 26 dB occupied bandwidth based on the peak output power level measured. A plot was taken to show the occupied bandwidth is contained within the allowable transmit band. FCC 2.1049 defines the occupied bandwidth to be the 99% bandwidth.

The occupied bandwidth was measured with the EUT configured in the modes called out in the data sheets.



						TbtTx 2022.06.03.0	XMit 2022.02.07.0		
EUT:	TR44KA Base Station				Work Order:	MASY0006			
Serial Number:	SV2146TR44KA000001				Date:	11-Aug-22			
Customer:	Mavenir Systems, Inc				Temperature:	20 °C			
Attendees:	None				Humidity:	61.6% RH			
Project:	None				Barometric Pres.:	1020 mbar			
Tested by:	Brandon Hobbs		Power: 48 VDC		Job Site:	TX09			
TEST SPECIFICAT	IONS		Test Method						
FCC 25:2022			ANSI C63.26:2015						
COMMENTS	COMMENTS								
All conducted path 3dBi antenna (Fina	All conducted path losses were accounted for: cables, attenuators, adapters, DC block and notch filter. The Widest Resource Block / Offset configuration was used per bandwidth. The PA gain was adjusted for a 3dBi antenna (Final software value of 42).								
DEVIATIONS FROM	M TEST STANDARD								
None									
Configuration #	1	Signature	2 Jan						
				Value 99% (MHz)	Value 26dB (MHz)	Limit	Result		
Antenna Port 1	5G NR, Band n24, SCS 15 QPSK Modu	5kHz, 5 MHz BW lation Low Channel 1528.5 MHz							
		25 RB/0 Offset		4.53	4.91	Within Band	Pass		
		High Channel 1533.5 MHz							
		25 RB/0 Offset		4.49	4.90	Within Band	Pass		
Antenna Port 2	5G NR, Band n24, SCS 18 QPSK Modu	5kHz, 5 MHz BW lation Low Channel 1528.5 MHz 25 RB/0 Offset High Channel 1533.5 MHz		4.48	4.89	Within Band	Pass		
Antonio Dest 0		25 RB/0 Offset		4.49	4.91	Within Band	Pass		
Antenna Port 3	5G NR, Band n24, SCS 18 QPSK Modu	5kHz, 5 MHz BW lation Low Channel 1528.5 MHz							
		25 RB/0 Offset		4.51	4.91	Within Band	Pass		
		High Channel 1533.5 MHz					_		
		25 RB/0 Offset		4.49	4.91	Within Band	Pass		
Antenna Port 4	5G NR, Band n24, SCS 18 QPSK Modu	5kHz, 5 MHz BW lation Low Channel 1528.5 MHz							
		25 RB/0 Offset		4.48	4.90	Within Band	Pass		
		High Channel 1533.5 MHz					_		
		25 RB/0 Offset		4.49	4.89	Within Band	Pass		





#IFGain:Low			Trig: Free Run #Atten: 30 dB	Trig: Free Run Avg Hold: 50/50 #Atten: 30 dB		
10 dB/div	Ref Offset 40.9 dB Ref 44.00 dBm					
Log 34.0						
24.0			www.www.www.www.www.www.	man		
14.0						
4.00						
-6.00						
-16.0	water and the second second	mannon		monum	www.manganananananananana	
-36.0						
-46.0						
Contor 1 5	22500 04-				Onen 45 00 Milia	
#Res BW	100 kHz		#VBW 300 kH	z	Sweep 1.599 ms	
Occup	ied Bandwidth	า	Total Power	38.6 dBm		
	4.4	4921 MHz				
Transm	nit Freq Error	-4.156 kHz	% of OBW Power	99.00 %		
x dB Ba	andwidth	4.900 MHz	x dB	-26.00 dB		
NSC				C- CTATHE		
Mag				LO STATUS		





LXI RL	RF 50 Ω DC		SENSE:INT	ALIGN AUTO	10:02:08 AM Jun 17, 2022
			Center Freq: 1.533500	000 GHz	Radio Std: None
			- Trig: Free Run	Avg Hold: 50/50	
		#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
	Ref Offset 40.9 dB				
10 dB/div	Ref 44.00 dBm				
LUG					
34.0					
24.0			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	mm	
14.0				N	
14.0					
4.00					
-6.00					
40.0					
-10.0	As we want to a superior and the of	m part and			
-26.0	194300 - So 199300 - So 199300 - So 1				and and the standard and and and the block
-36.0					
-46.0					
	00500 011				
Center 1.5	33500 GHZ				Span 15.00 WHz
#Res BW	100 KHZ		#VBW 300 k	HZ	Sweep 1.599 ms
Occup	ied Bandwidth		Total Power	39.1 dBm	
	A /				
	4.4				
Tranam	it From Error	7 226 64-	% of OBW Bow	or 00.00 %	
Transm	in Freq Error	-7.220 KHZ	% OF OBW POW	99.00 %	
x dB Ba	andwidth	4.912 MHz	x dB	-26.00 dB	
				21	
MSG				STATUS	





	#IFGain:Low	Center Freq: 1.533500000 Trig: Free Run #Atten: 30 dB	GHz Avg Hold: 50/50	Radio Std: None Radio Device: BTS
Ref Offset 40.9 d 10 dB/div Ref 44.00 dBr	IB m			
34.0				
24.0		aller and a second and the second	~~~~	
14.0	/		<u>\</u>	
4.00				
-6.00				
-16.0	mmmm		hannen	Annow Manner March
-26.0				
-46.0				
#Res BW 100 kHz		#VBW 300 kHz		Span 15.00 MHz Sweep 1.599 ms
Occupied Bandwid	th	Total Power	39.3 dBm	
4.	4923 MHz			
Transmit Freq Error	-1.742 kHz	% of OBW Power	99.00 %	
x dB Bandwidth	4.911 MHz	x dB	-26.00 dB	
MSG			K STATUS	





LX/ RL	RF 50 Ω DC	,	SENSE:INT	ALIGN	AUTO		10:28:4	4 AM Jun 17, 2022
		_	Center Freq: *	1.533500000 GH	Hz AvalHold: 5	0/50	Radio Std:	None
		#IFGain:Low	#Atten: 30 dB				Radio Devi	ce: BTS
	Ref Offset 40.9 dB							
10 dB/div	Ref 43.00 dBm							
Log								
33.0								
23.0		- mark	and the second s	way a classica and a construction of the const	~~			
13.0								
3.00								
-7.00								
-17.0	m	Anna marine and			L.	Yherdroom and the	- Anno Anno - An	
-27.0								
-37.0								
-47.0								
Center 1 53	3500 CH7						Spar	15 00 MHz
#Res BW 10	00 kHz		#VBW	300 kHz			Swee	p 1.599 ms
Occupio	d Bandwidth		Total Pov	ver	38 2 dE	Rm		
Occupie								
	4.4	1936 MHZ						
Transmit	Freq Error	270 Hz	% of OBV	Power	99.00	%		
v dB Ban	dwidth	/ 802 MHz	v dB		-26 00	dB		
		4.002 mm12	X UD		-20.00			
MEC				r/_	STATUS			
mad				40	STATUS			