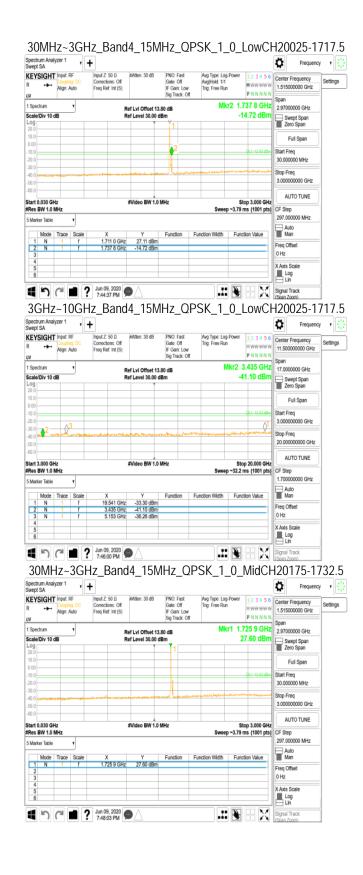


### Report No.: E2/2020/50040 Page 45 of 77

vectrum Analyzer 1 vept SA	Hz_Band4_10					Frequency 🕴
EYSIGHT Input: RF Couping DC Align: Auto	Input Z: 50 Ω #Atten: 30 dE Corrections: Off Freq Ref: Int (S)	Gate: Off IF Gain: Low	Avg Type: Log-Powe Trig: Free Run	M WW WW W	Center Frequencies	
Spectrum v		Sig Track: Off	Mkr2	P N N N N N 3.465 GHz	Span	015
ale/Div 10 dB	Ref Lvi Offset Ref Level 30.0			-39.32 dBm	17.0000000	ipan
0					Full S	pan
0.0				01-13.00 dBm	Start Freq 3.00000000	0 GHz
).0 0.0 0.0	and the second	an a	Anton gitteren, albane Arre		Stop Freq 20.0000000	00 GHz
art 3.000 GHz	#Video BW	1.0 MHz	5	top 20.000 GHz	AUTO	UNE
les BW 1.0 MHz Marker Table •			Sweep ~32.	2 ms (1001 pts)	CF Step 1.70000000	0 GHz
Mode         Trace         Scale           1         N         1         f           2         N         1         f	X Y 18.946 GHz -32.79 dE 3.465 GHz -39.32 dE	Im	unction Width Fu	nction Value	Man Freq Offset	
3 N 1 f	5.198 GHz -36.48 dE				0 Hz X Axis Scale	
5					Log Lin	
					Signal Track (Span Zoom)	
pectrum Analyzer 1	Hz_Band4_10	)MHz_Qł	PSK_1_0	_High(		50-1/50
VEPT SA	Input Z: 50 Ω #Atten: 30 dE	PNO: Fast	Avg Type: Log-Powe	123456	Center Frequ	
Couping: DC Align: Auto	Corrections: Off Freq Ref: Int (S)	Gate: Off IF Gain: Low Sig Track: Off	Trig: Free Run	MWWWWW	1.51500000	Settings
Spectrum V	Ref Lvi Offset		Mkr1 1	.746 7 GHz	Span 2.97000000	GHz
cale/Div 10 dB	Ref Level 30.0	0 dBm		26.83 dBm	Swept S Zero Sp	ipan an
0.0					Full S	
0.0				QL1-13.03 dBm	Start Freq	
0.0			محديل مسرح مر		30.000000 f	/Hz
0.0					3.00000000	D GHz
art 0.030 GHz Res BW 1.0 MHz	#Video BW	1.0 MHz		Stop 3.000 GHz 9 ms (1001 pts)	AUTO T CF Step	UNE
Marker Table				- na (1001 p.a/	297.000000	MHz
Mode Trace Scale	X Y 1.746 7 GHz 26.83 dB		unction Width Fu	nction Value	Freq Offset	
3					0 Hz	
4 5 6					X Axis Scale	
	Jun 09, 2020		.: N		Signal Track	
	Hz_Band4_10	MHz OF			H203	50-1750
	+		51(_1_0	_riigire		Frequency
EYSIGHT Input RF	Input Z: 50 Q #Atten: 30 dE Corrections: Off	PNO: Fast Gate: Off	Avg Type: Log-Powe Trig: Free Run		Center Frequ	
Align: Auto	Freq Ref: Int (S)	IF Gain: Low Sig Track: Off		M WW WW W P N N N N N	11.5000000 Span	DO GHIZ
Spectrum V	Ref Lvi Offset			3.500 GHz	17.0000000	
cale/Div 10 dB	Ref Level 30.0	0 dBm		-36.10 dBm	Swept S Zero Sp	ipan an
10.0					Full S	pan
1.00				QL1-13.03 dBm	Start Freq	
20.0 30.0 40.0	and the second	and a second state of the	1-1.8-141.00 1000 1-140 -167-16-16		3.00000000 Stop Freq	
50.0					20.000000	
	#Video BW	1.0 MHz		top 20.000 GHz 2 ms (1001 pts)	AUTO T CF Step	UNE
tart 3.000 GHz					1.70000000	D GHz
tart 3.000 GHz Res BW 1.0 MHz					The street	
tart 3.000 GHz Res BW 1.0 MHz	X Y 19.371 GHz -31.81 dE		unction Width Fu	nction Value	Man	
tart 3.000 GHz Res BW 1.0 MHz Marker Table • Mode Trace Scale	X Y 19.371 GHz -31.81 dB 3.500 GHz -36.10 dB 5.250 GHz -37.85 dB	im im	unction Width Fu	nction Value	Freq Offset 0 Hz	
tart 3.000 GHz Res BW 1.0 MHz Marker Table Mode Trace Scale 1 N 1 f 2 N 1 f	3.500 GHz -36.10 dB	im im	Function Width Fu	nction Value	Freq Offset	



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### Report No.: E2/2020/50040 Page 46 of 77

vectrum Analyzer 1	Hz_Band4_15				Ö.	Frequency	,
EYSIGHT Input: RF Couping. DC Align: Auto	Input Z: 50 Ω #Atten: 30 dB Corrections: Off Freq Ref: Int (S)	PNO: Fast Gate: Off IF Gain: Low	Awg Type: Log-Power Trig: Free Run	1 2 3 4 5 6 M WWWWW	Center Fr 11.50000	equency 0000 GHz	Setting
		Sig Track: Off	Mike2	P N N N N N 5.198 GHz	Span		
Spectrum v cale/Div 10 dB	Ref Lvi Offset Ref Level 30.0			36.96 dBm	17.0000		
.0g 20.0				_	Zero	Span	
0.00						l Span	
10.0 20.0 30.0 A2 A3				0L1-13.03 dBm		0000 GHz	
10.0 60.0	an a	Long Logen	artestan series and a series of the	an the case of the second	Stop Freq 20.00000	00000 GHz	
art 3.000 GHz	#Video BW 1	.0 MHz		top 20.000 GHz		OTUNE	
Res BW 1.0 MHz Marker Table V			Sweep ~32.	2 ms (1001 pts)		0000 GHz	
Mode Trace Scale	X Y 19.388 GHz -32.26 dB		unction Width Fu	nction Value	Auto Man		
2 N 1 f 3 N 1 f	3.465 GHz -32.20 dB 3.465 GHz -38.66 dB 5.198 GHz -36.96 dB	m			Freq Offs 0 Hz	et	
4 5 6					X Axis Sc	ale	
	? Jun 09, 2020				Signal Tra	ack	
	了 7:48:30 PM ₩ Hz_Band4_15N	/Hz OP	Le		(Span Zoo	m)	) 747
pectrum Analyzer 1	+	////2_@/	01(_1_0_	ingnoi	<b>Q</b>	Frequency	•
EYSIGHT Input: RF Coupling DC	Input Z: 50 Ω #Atten: 30 dB Corrections: Off	PNO: Fast Gate: Off	Awg Type: Log-Power Trig: Free Run	123456	Center Fr		Setting
Align: Auto	Freq Ref: Int (S)	IF Gain: Low Sig Track: Off		PNNNN	Span	0000 GHz	-
Spectrum •	Ref Lvi Offset		Mkr1 1	.740 7 GHz 25.97 dBm	2.970000		
cale/Div 10 dB	Ref Level 30.0	J dBm		25.97 dBm		pt Span Span	
20.0						I Span	
0.00				QL1-13.00 dBm	Start Free		
20.0					30.0000		
10.0	and a second	anitation francession	anggan dan dan dan dan dan dan dan dan dan d	****	Stop Free 3.000000	0000 GHz	
tart 0.030 GHz	#Video BW 1	.0 MHz		Stop 3.000 GHz		OTUNE	
Res BW 1.0 MHz Marker Table			Sweep ~3.7	ms (1001 pts)	CF Step 297.0000	00 MHz	
Mode Trace Scale	X Y	Function F	unction Width Fu	nction Value	Auto Man		
1 N 1 f	1.740 7 GHz 25.97 dB				Freq Offs	et	
3 4					0 Hz		
5					X Axis Sc Log	ale	
1 h c 1	<b>?</b> Jun 09, 2020		.:: 🖲	XH	Signal Tra		
	f 7:50:58 PM ₩/		Le		Lisoan Zoo		י 777
pectrum Analyzer 1	+		JK_1_0_	riignoi	0	Frequency	, 47
Wept SA (EYSIGHT Input: RF Coupling DC	Input Z: 50 Ω #Atten: 30 dB Corrections: Off	PNO: Fast Gate: Off	Awg Type: Log-Power Trig: Free Run	123456	Center Fr		Setting
Align: Auto	Freq Ref: Int (S)	IF Gain: Low Sig Track: Off	ing: Free Run	M WW WW W P N N N N N	11.50000	00000 GHz	Setting
Spectrum V	Ref Lvi Offset		Mkr2	3.495 GHz	Span 17.00000	000 GHz	
icale/Div 10 dB	Ref Level 30.0			39.71 dBm	Swer Zero	pt Span	
20.0							
0.00				0L1-13.00 dBm	Ful Start Free	l Span	
10.0 20.0 30.0				01	3.000000	0000 GHz	
40.0 <b>m. 2</b>	numurational distances in the second	an af a fair an	the angle of the second se	and the second	Stop Free 20.0000	00000 GHz	
60.0	#Video BW 1	0.00		top 20.000 GHz	AUT	OTUNE	
	#video BW 1	o nifiz		top 20.000 GHz 2 ms (1001 pts)		0000 GHz	
Res BW 1.0 MHz		Function F	Second and particular of the	alles Maria	- Auto		
Res BW 1.0 MHz 5 Marker Table Y	M		unction Width Fu	nction Value	Man 🖉		
Marker Table         V           Mode         Trace         Scale           1         N         1         f	X Y 19.422 GHz -33.23 dB	m			Free Offe	et	
Mode         Trace         Scale           1         N         1         f           2         N         1         f           3         N         1         f		m			Freq Offs 0 Hz	et	
Mode         Trace         Scale           1         N         1         f           2         N         1         f	19.422 GHz -33.23 dB 3.495 GHz -39.71 dB	m					



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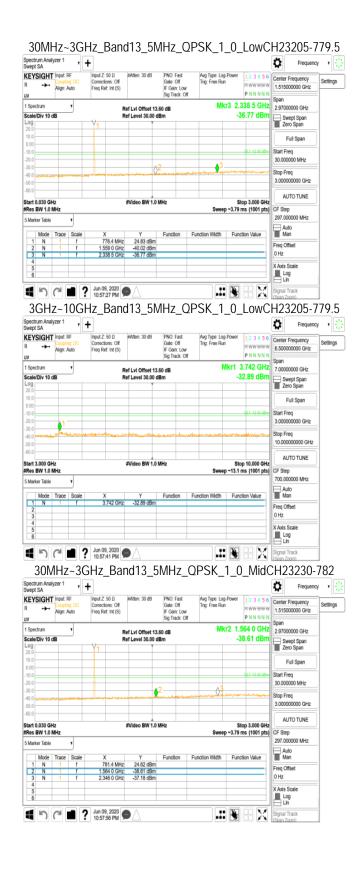
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### Report No.: E2/2020/50040 Page 47 of 77

ectrum Analyzer 1 vept SA	Hz_Band4_2				Freque	
EYSIGHT Input: RF Couping: DC Align: Auto	Input Z: 50 D #Atten: Corrections: Off Freq Ref: Int (5)	Gate: Off IF Gain: Low	Awg Type: Log-Pow Trig: Free Run	MWWWW	Center Frequency 11.50000000 GH	z
spectrum v		Sig Track: Off	Mkr	P N N N N N 3.465 GHz	Span	_
cale/Div 10 dB		ffset 13.80 dB 30.00 dBm		-38.27 dBm	17.0000000 GHz	-
0.0 0.0				_	Zero Span	_
0.00					Full Span	4
10.0				0L1-13.00 dBm	Start Freq 3.000000000 GHz	
10.0 2 3 10.0 10.0 10.0 10.0 10.0 10.0 10.0 10.0	and the second	an and a stand a stand a stand	-	mandina	Stop Freq	-
0.0					20.00000000 GH	z
art 3.000 GHz	≇Video	BW 1.0 MHz		Stop 20.000 GHz	AUTO TUNE	
Res BW 1.0 MHz Marker Table V			Sweep ~32	.2 ms (1001 pts)	CF Step 1.700000000 GHz	
	XY	Fuedlas	Function Width F	matten Mekun	Auto Man	-
Mode Trace Scale 1 N 1 f 2 N 1 f	18.997 GHz -32.5	Function 56 dBm 27 dBm	Function Width F	unction Value	Freq Offset	-
2 N 1 f 3 N 1 f 4		29 dBm			0 Hz	_
5					X Axis Scale Log	
	🕥 Jun 09, 2020 👝 🔨				Lin	_
	7:22:08 PM				Signal Track (Span Zoom)	
	Hz_Band4_	20MHz_Q	PSK_1_(	)_High(	CH20300	-1/45
vept SA	+				Freque	ncy 🕴
EYSIGHT Input RF	Input Z: 50 Q #Atten: Corrections: Off	Gato: Off	Awg Type: Log-Pow Trig: Free Run	er 123456 MWWWWW	Center Frequency 1.51500000 GHz	Settings
Align: Auto	Freq Ref: Int (S)	IF Gain: Low Sig Track: Off		PNNNN	Span	=
Spectrum v		ffset 13.80 dB	Mkr1	1.737 8 GHz 25.12 dBm	2.97000000 GHz	_
cale/Div 10 dB	Ref Leve	30.00 dBm		23.12 UDII	Swept Span Zero Span	
10.0					Full Span	
0.00				QL1-13.00 dBm	Start Freq	-
30.0					30.000000 MHz	=
10.0		and the second	alay paragenter participanter pa		Stop Freq 3.000000000 GHz	
50.0					AUTO TUNE	
tart 0.030 GHz Res BW 1.0 MHz	#Video	BW 1.0 MHz	Sweep ~3.	Stop 3.000 GHz 79 ms (1001 pts)	CF Step	-
Marker Table 🔻					297.000000 MHz	_
Mode Trace Scale		Function 12 dBm	Function Width F	unction Value	Man	
2 3	1.737 6 GHZ 20.	12 UDIII			Freq Offset 0 Hz	
4 5					X Axis Scale	=
6					Log	
4 h C 1	? Jun 09, 2020		.# 8	6 II X	Signal Track (Span Zoom)	
3GHz~10C	Hz_Band4_	20MHz O	PSK 1 (	High		-1745
pectrum Analyzer 1	+				Ø Freque	
EYSIGHT Input: RF	Input Z: 50 Ω #Atten:		Avg Type: Log-Pow	er 123456	Center Frequency	
+ Coupling: DC Align: Auto	Corrections: Off Freq Ref: Int (S)	Gate: Off IF Gain: Low	Trig: Free Run	M WW WW W	11.50000000 GH	z
spectrum v		Sig Track: Off	Mkr2	3.490 GHz	Span 17.0000000 GHz	
cale/Div 10 dB		30.00 dBm		-39.84 dBm	Swept Span	-
.0g 20.0					Zero Span	-
0.00					Full Span	_
20.0				QL1-13.00 dBm	Start Freq 3.00000000 GHz	
20.0		مدرو <sub>ر م</sub> رور معرور المرام م		and the second	Stop Freq	-
30.0 A2 A3					20.00000000 GH	z
30.0 40.0 50.0				Stop 20.000 GHz	AUTO TUNE	
10.0 10.0	#Video	BW 1.0 MHz			CF Step	1
30.0 2 33 10.0 0 2 44 44 45 45 45 45 45 45 45 45 45 45 45	≇Video	BW 1.0 MHz	Sweep ~32	2 ms (1001 pts)	1.700000000 GHz	
10 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			Sweep ~32	.2 ms (1001 pts)	1.70000000 GHz	_
100 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	X Y 3.731 GHz -31.4	Function 33 dBm	Sweep ~32	2 ms (1001 pts)	1.700000000 GHz	
000         2         3           000         2         3           000         3         3           1         N         1           1         N         1           2         N         1           3         N         1	X Y 3.731 GHz -31. 3.490 GHz -39.	Function	Sweep ~32	.2 ms (1001 pts)	1.70000000 GHz Auto Man Freq Offset 0 Hz	
100         100 <td>X Y 3.731 GHz -31.4 3.490 GHz -39.4</td> <td>Function 33 dBm</td> <td>Sweep ~32</td> <td>.2 ms (1001 pts)</td> <td>1.70000000 GHz Auto Man Freq Offset</td> <td></td>	X Y 3.731 GHz -31.4 3.490 GHz -39.4	Function 33 dBm	Sweep ~32	.2 ms (1001 pts)	1.70000000 GHz Auto Man Freq Offset	



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### Report No.: E2/2020/50040 Page 48 of 77

vectrum Analyzer 1	+				Frequer	icy 🔹 🕄
EYSIGHT Input: RF Coupling DC Align: Auto	Input Z: 50 Ω #Atlen: 30 dB Corrections: Off Freq Ref: Int (S)	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	Avg Type: Log-Pow Trig: Free Run	er 123456 MWWWWW PNNNNN	Center Frequency 6.50000000 GHz	Settings
spectrum v	Ref Lvi Offset	0	Mkr	1 3.805 GHz	Span 7.0000000 GHz	_
cale/Div 10 dB	Ref Level 30.00			-33.58 dBm	Swept Span	-
20.0				_	Zero Span	5
0.00					Full Span	
20.0				QL1-13.00 dBm	Start Freq 3.000000000 GHz	
10.0	and and design the set of the set of the set of the	a sana da di Babban sin	and the same the same	Lunineen	Stop Freq	=
60.0					10.00000000 GHz	
0.0		A 881-			AUTO TUNE	
tart 3.000 GHz Res BW 1.0 MHz	#Video BW 1.	,0 MHz	Sweep ~1	Stop 10.000 GHz 3.1 ms (1001 pts)		ń.
Marker Table					700.000000 MHz	-
Mode Trace Scale	X Y	Function F	unction Width F	unction Value	Man	
1 N 1 f	3.805 GHz -33.58 dBr	n			Freq Offset 0 Hz	
3 4					X Axis Scale	=
5 6					Log	
€ h c ∎ ?	Jun 09, 2020		.:: P		Signal Track	-
					LIDDDEE	 70 / Г
enderen Analizare A	Hz_Band13_5		'SK_1_U	- Hight	<b>4</b>	
vept SA	+	D110 7 1	And the second second		Frequer	ky t
EYSIGHT Input: RF Couping: DC	Input Z: 50 Q #Atten: 30 dB Corrections: Off	PNO: Fast Gate: Off	Avg Type: Log-Pow Trig: Free Run	er 123456 MWWWWW	Center Frequency	Settings
Align: Auto	Freq Ref: Int (S)	IF Gain: Low Sig Track: Off		PNNNN	1.515000000 GHz	-
Spectrum •	Ref Lvi Offset		Mkr2	1.569 0 GHz	Span 2.97000000 GHz	
cale/Div 10 dB	Ref Level 30.00	) dBm		-39.33 dBm	Swept Span Zero Span	
0.0						5
0.00				0L1-13.03 dBn	Full Span Start Freq	4
20.0				UCT-10.00 GDT	30.000000 MHz	
30.0		2 -		ورس ويور ور عاريق ها ال	Stop Freq	-
50.0					3.00000000 GHz	-
tart 0.030 GHz	#Video BW 1	.0 MHz		Stop 3.000 GHz	AUTO TUNE	J
Res BW 1.0 MHz			Sweep ~3	79 ms (1001 pts)	CF Step 297.000000 MHz	
Marker Table •					Auto	-
Mode Trace Scale 1 N 1 f	X Y 781.4 MHz 25.76 dBr	m	Function Width F	unction Value	Man Freq Offset	-
2 N 1 f 3 N 1 f	1.569 0 GHz -39.33 dBr 2.353 5 GHz -35.97 dBr				0 Hz	
4 5					X Axis Scale	-
6					Log Lin	
? 🖿 ۲ ک	Jun 09, 2020		.:: 9	8 -	Signal Track (Span Zoom)	
3GHz~10GF	Hz_Band13_5	MHZ OF	PSK 1 0			
	+		51.1_0	_nigno	Frequer	
EYSIGHT Input: RF	Input Z: 50 Q #Atten: 30 dB	PNO: Fast	Awg Type: Log-Pow	er 123456		
LIUGHT	Corrections: Off Freq Ref: Int (S)	Gate: Off IF Gain: Low	Trig: Free Run	MWWWW	Center Frequency 6.50000000 GHz	Settings
Coupling DC		Sig Track: Off		PNNNNN	Span	=
Align: Auto			MKE	1 5.030 GHz	7.0000000 GHz	-
Spectrum	Ref Lvi Offset 1 Ref Level 30 0			-32 99 dBm	Swept Span	
Spedrum	Ref Lvi Offset Ref Level 30.00			-32.99 dBm	Zero Span	
Cooping DC     Align: Auto     v      Spectrum     v      Casle/Div 10 dB      10.0				-32.99 dBm		
Cooping DC     Aign: Auto     v      Spectrum     v      cate/Div 10 dB     v      v      0.0				-32.99 dBm	Full Span Start Freq	
Cooping DC     Align: Auto     s      Spectrum     Cate/Div 10 dB     00					Full Span Start Freq 3.00000000 GHz	
Cooping DC     Aign: Auto     Spectrum     Spectrum     O			1		Full Span Full Span Start Freq 3.00000000 GHz Stop Freq	
Couping DC     Aign: Auto      a     Spectrum     Cate/Div 10 dB     00			4		Zero Span Full Span Start Freq 3.00000000 GHz Stop Freq 10.00000000 GHz	
Cooping DC     Mark Au     Au     Cooping DC     Mark Au     Cooping DC		0 dBm		0(1-13.00 dBm triant sing, yol.475 as Stop 10.000 GHz	Zero Span Full Span Start Freq 3.000000000 GHz Stop Freq 10.00000000 GHz AUTO TUNE	
Cooping DC     Magn Auto      v      Spectrum     Spectrum     O     Spectrum     O     Spectrum     O	Ref Level 30.00	0 dBm		OLI-13.00 dBm	Zero Span Full Span Start Freq 3.00000000 GHz Stop Freq 10.00000000 GHz	
Cooping DC     Magn Auto      v      Spectrum     Spectrum     v      spectrum     s	Ref Level 30.0	0 dBm	Sweep ~1	0,1-13.00 #Bm Marci sing yol.#**** Stop 10.000 GHz 3.1 ms (1001 pts)	Zero Span     Full Span     Start Freq     3.00000000 GHz     Stop Freq     10.00000000 GHz     AUTO TUNE     CF Step     700.000000 MHz     Auto	
Cooping DC     Magn Auto      V      Spectrum	Ref Level 30.00	0 dBm	Sweep ~1	0(1-13.00 dBm triant sing, yol.475 as Stop 10.000 GHz	Zero Span Full Span Start Freq 3.00000000 GHz Stop Freq 10.00000000 GHz AUTO TUNE CF Step 700.00000 MHz Auto Man	
Cooping DC     Magn Auto     w     Spectrum     Spec	Ref Level 30.00	0 dBm	Sweep ~1	0,1-13.00 #Bm Marci sing yol.#**** Stop 10.000 GHz 3.1 ms (1001 pts)	Zero Span     Full Span     Start Freq     3.00000000 GHz     Stop Freq     10.00000000 GHz     AUTO TUNE     CF Step     700.000000 MHz     Auto	
Cooping DC     Magn Auto      w      Spectrum     v      Spectrum     spec	Ref Level 30.00	0 dBm	Sweep ~1	0,1-13.00 #Bm Marci sing yol.#**** Stop 10.000 GHz 3.1 ms (1001 pts)	Zero Span     Full Span     Start Freq     3.000000000 GHz     Stop Freq     10.00000000 GHz     AUTO TUNE     CF Step     700.00000 MHz     Man     Freq Offset	



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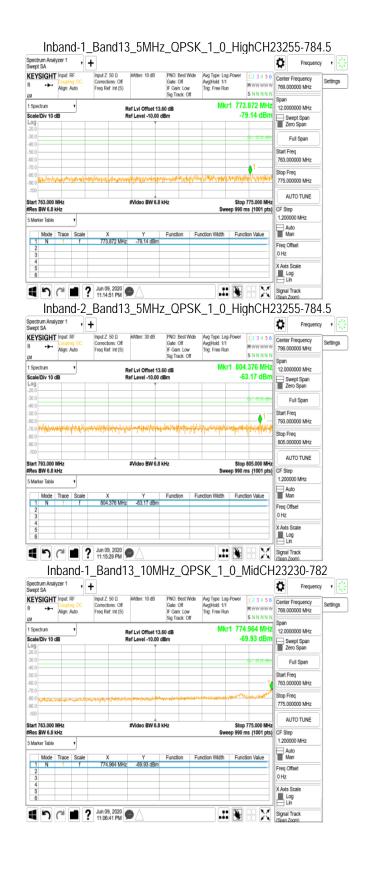
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### Report No.: E2/2020/50040 Page 49 of 77

ectrum Analyzer 1 vept SA	_Band13_5 +				Frequence	
EYSIGHT Input: RF Coupling, DC Align: Auto	Input Z: 50 D #Atte Corrections: Off Freq Ref: Int (S)	n: 30 dB PNO: Best Gate: Off IF Gain: Lo	Avg[Hold: 1/1 w Trig: Free Run	MWWWW	Center Frequency 799.000000 MHz	Settings
pectrum V		Sig Track: (	DAL	S NN NN N 1 800.704 MHz	Span	
ale/Div 10 dB		Offset 13.60 dB vel -10.00 dBm		-62.77 dBm	12.0000000 MHz Swept Span	1
9					Zero Span	5
.0				0L1-35.00 dBm	Full Span	4
	elalonen yn traditelel	iagobene yangi serupi seruturah	1 Hadrighterstightscop	wayaaadhaanaaliyaa	Start Freq 793.000000 MHz Stop Freq	-
0					805.000000 MHz	-
ert 793.000 MHz es BW 6.8 kHz	≇Vide	eo BW 6.8 kHz	Swee	Stop 805.000 MHz p 990 ms (1001 pts)	AUTO TUNE CF Step	
Marker Table					1.200000 MHz	
Mode Trace Scale	X	Y Function	Function Width	Function Value	Auto Man	
1 N 1 f 2 3	800.704 MHz -6	2.77 dBm			Freq Offset 0 Hz	
4 5 6					X Axis Scale	
	Jun 09, 2020	1	.::		Signal Track (Span Zoom)	1
Inband-	1_Band13_	5MHz Q	PSK 1 0			2
ectrum Analyzer 1	+			_	Frequenc	
EYSIGHT Input: RF Coupling: DC Align: Auto	Input Z: 50 D #Atte Corrections: Off Freq Ref: Int (S)	n: 10 dB PNO: Best Gate: Off IF Gain: Lo	Avg[Hold: 1/1 w Trig: Free Run	M MM MM M	Center Frequency 769.000000 MHz	Settings
,		Sig Track: (	Dff	S N N N N 1 774.952 MHz	Span	-
Spectrum v tale/Div 10 dB		Offset 13.60 dB vel -10.00 dBm	MKC	1 774.952 MHz -77.44 dBm	12.0000000 MHz	-
0.0					Zero Span	
0.0				QL1-35.00 dBm	Full Span	)
0.0				1.	Start Freq 763.000000 MHz	
0.0 50.0 60.0 4-3,3,5-99993//wight-standivg/	sigglia digen inger forme	entre anter a subserver	warana ang bana papa	and the second	Stop Freq 775.000000 MHz	
art 763.000 MHz	#Vid	eo BW 6.8 kHz		Stop 775.000 MHz	AUTO TUNE	)
Res BW 6.8 kHz Marker Table			Swee	ep 990 ms (1001 pts)	CF Step 1.200000 MHz	
Marker lable • Mode Trace Scale	x	Y Function	Function Width	Function Value	Auto Man	
Mode Trace Scale 1 N 1 f 2		Y Function 7.44 dBm	Pancoon Width	runulun value	Freq Offset	-
3 4					0 Hz	
5 6					X Axis Scale	
	Jun 09, 2020				Signal Track (Span Zoom)	
	2_Band13_					_ ງ
ectrum Analyzer 1			F3K_1_(		23230-78 Frequenc	
Wept SA	+ Input Z: 50 Ω #Atte	n: 30 dB PNO: Best	Wide Avg Type: Log-	Power 123456		
Align: Auto	Corrections: Off Freq Ref: Int (S)	Gate: Off IF Gain: Lo Sig Track: (	Avg[Hold: 1/1 w Trig: Free Run	MWWWWW S NN NN N	Center Frequency 799.000000 MHz	Settings
Spectrum v		Offset 13.60 dB		1 793.228 MHz	Span 12.0000000 MHz	
cale/Div 10 dB	Ref Lev	vel -10.00 dBm		-62.29 dBm	Swept Span Zero Span	
10.0				QL1-35.00 dBm	Full Span	Ĩ
					Start Freq	
i0.0 i0.0	en code don de code don de	rhaitedanisariyardan	, and the state of		793.000000 MHz Stop Freq	-
0.0 0.0 0.0 0.0 0.0 0.0	at some det date of the f				805.000000 MHz	
0.0 0.0 0.0 0.0 0.0 0.0 0.0	al and different design					1
10.0 10.0		eo BW 6.8 kHz	_	Stop 805.000 MHz	AUTO TUNE	)
100 11 100 100 100 100 100 100		eo BW 6.8 kHz	Swee	Stop 805.000 MHz p 990 ms (1001 pts)	AUTO TUNE CF Step 1.200000 MHz	
000 000 000 000 000 000 000 000 000 00	#Vide	Y Function	Swee Function Width	Stop 805.000 MHz ap 990 ms (1001 pts) Function Value	CF Step	]
00 00 00 00 00 00 00 00 00 00	#Vide			ep 990 ms (1001 pts)	CF Step 1.200000 MHz Auto Man Freq Offset	-
000 000 000 000 000 000 000 000 000 00	#Vide	Y Function		ep 990 ms (1001 pts)	CF Step 1.200000 MHz Auto Man	
000 000 000 000 000 000 000 000	#Vide	Y Function		ep 990 ms (1001 pts)	CF Step 1.20000 MHz Auto Man Freq Offset 0 Hz	



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Swept SA	nalyzer 1 🔻	+					Ö F	requency 🔹
	HT Input: RF Coupling DC Align: Auto	Input Z: 50 D Corrections: Off Freq Ref: Int (S)	#Atten: 30 dB	PNO: Best Wide Gate: Off IF Gain: Low Sig Track: Off	Awg Type: Log-Power Awg[Hold: 1/1 Trig: Free Run	1 2 3 4 5 6 MWWWWW S N N N N N	Center Freque 799.000000 I	
1 Spectrum	,	R	ef Lvi Offset 13.	60 dB	Mkr1 79	94.476 MHz	Span 12.0000000 I	VIHz
Scale/Div	10 dB	R	ef Level -10.00 d	Bm		60.44 dBm	Swept Sp	
-20.0							Zero Spa	n
-30.0	_					01-35.00 dBm	Full Sp	an
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60.0					at an Inter		793.0000001	VIHz
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-100						_		_
	00 MHz		#Video BW 6.8	kHz	Ste	p 805.000 MHz	AUTO TI	JNE
Start 793.0					Sweep 99	0 ms (1001 pts)	CF Step	
Start 793.0 #Res BW 6	.8 KHZ						1.200000 MH	z
								_
#Res BW 6 5 Marker Ta	ble 🔻	x	Y	Function Fu	nction Width Eu	nction Value	Auto	
5 Marker Ta	ble 🔻	X 794.476 MHz	Y -60.44 dBm	Function Fu	nction Width Fu	nction Value	Man 📕	
Fres BW ( 5 Marker Ta Moo 1 N 2	ble 🔻			Function Fu	nction Width Fu	nction Value		
5 Marker Ta	ble 🔻			Function Fu	nction Width Fu	nction Value	Freq Offset	

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# 9 FIELD STRENGTH OF SPURIOUS RADIATION MEASUREMENT

# 9.1 Standard Applicable

According to FCC §2.1053,

# FCC §27.53(h), §27.53(c) (f)

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.

# FCC §27.53(c) for LTE B13

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB (-13dBm)

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than

65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

# FCC §27.53 (f) for LTE B13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wide-band signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

# FCC §27.53(c) (5) & FCC §27.53(g) for LTE 13

Compliance for operations in the 600 MHz, 698-746 MHz, 746-758 MHz and the 776-788 MHz band with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

# FCC §27.53(h)(3) for LTE B4

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.

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Table 2 — Unwanted Emissions for Mobile, Portable and Low-Power Fixed Subscriber Equipment

Frequency (MHz)	Attenuation (dB)
<2200	$43 + 10 \log_{10}(p)$
2200 - 2288	$70 + 10 \log_{10}(p)$
2288 - 2292	$67 + 10 \log_{10}(p)$
2292 - 2296	$61 + 10 \log_{10}(p)$
2296 - 2300	$55 + 10 \log_{10}(p)$
2300 - 2305	$43 + 10 \log_{10}(p)$
2305 - 2320	$43 + 10 \log_{10}(p)^{\text{Note}}$
2320 - 2324	$55 + 10 \log_{10}(p)$
2324 - 2328	$61 + 10 \log_{10}(p)$
2328 - 2337	$67 + 10 \log_{10}(p)$
2337 - 2341	$61 + 10 \log_{10}(p)$
2341 - 2345	$55 + 10 \log_{10}(p)$
2345 - 2360	$43 + 10 \log_{10}(p)^{\text{Note}}$
2360 - 2365	$43 + 10 \log_{10}(p)$
2365 - 2395	$70 + 10 \log_{10}(p)$
>2395	$43 + 10 \log_{10}(p)$

Note: Measured at the edges of the highest and lowest frequency range(s) in which the equipment is designed to operate. See Section 1.2 for the permitted frequency ranges for various equipment types.

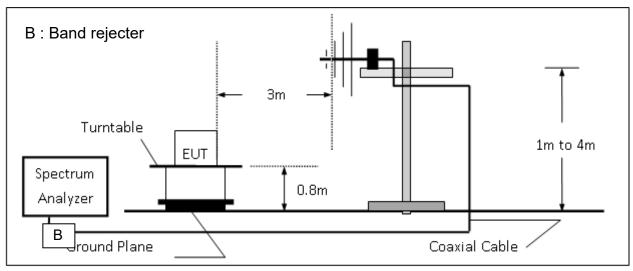
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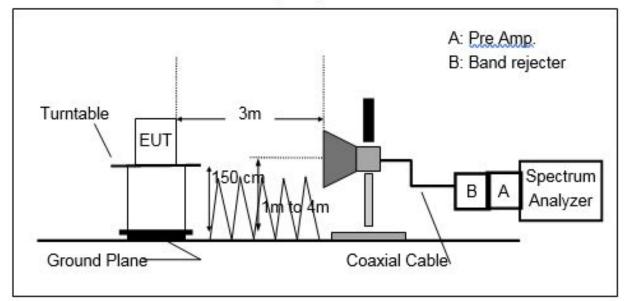


#### 9.2 **EUT Setup**

Radiated Emission Test Set-Up, Frequency Below 1000MHz



Radiated Emission Test Set-UP Frequency Over 1 GHz



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# 9.3 Measurement Procedure:

The EUT was placed on a non-conductive; the measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

The frequency range up to tenth harmonic was investigated for each of three fundamental frequencies (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method.

The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency.

ERP (dBm) = SG Level(dBm) + Antenna Gain(dBd) + Cable Loss(dB)

EIRP (dBm) = SG Level(dBm) + Antenna Gain(dBi) + Cable Loss(dB)

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#### 9.4 **Measurement Equipment Used:**

ERP, EIRP MEASUREMENT EQUIPMENT List 966 Chamber								
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.			
Broadband Antenna	SCHWAZBECK	VULB 9168	9168-617	11/04/2019	11/03/2020			
Broadband Antenna	TESEQ	CBL 6112D	35240	09/09/2019	09/08/2020			
Horn Antenna	Schwarzbeck	BBHA9120D	1187	01/10/2020	01/09/2021			
Horn Antenna	Schwarzbeck	BBHA9170	185	08/07/2019	08/06/2020			
Horn Antenna	Schwarzbeck	BBHA9120D	1341	06/12/2019	06/11/2020			
3m Site NSA	SGS	966 chamber D	N/A	07/12/2019	07/11/2020			
Spectrum Analyzer	KEYSIGHT	N9010A	MY51440113	07/15/2019	07/14/2020			
Pre-Amplifier	EMC Instruments	EMC330	980096	11/20/2019	11/19/2020			
Pre-Amplifier	EMC Instruments	EMC0011830	980199	11/20/2019	11/19/2020			
Pre-Amplifier	EMC Instruments	EMC184045B	980135	11/20/2019	11/19/2020			
Pre-Amplifier	EMC Instruments	EMC9135	980234	11/20/2019	11/19/2020			
Pre-Amplifier	EMC Instruments	EMC12630SE	980271	11/20/2019	11/19/2020			
Highpass Filter	Micro Tronics	BRM50701-01	G008	11/20/2019	11/19/2020			
High Pass Filter	Micro-Tronics	G003	RF99	11/20/2019	11/19/2020			
Notch Filter	Woken	EWT-54-0037	RF54	11/20/2019	11/19/2020			
Notch Filter	Woken	EWT-54-0038	RF55	11/20/2019	11/19/2020			
Lowpass Filter	Woken	EWT-56-0019	RF46	11/20/2019	11/19/2020			
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17388/4	11/20/2019	11/19/2020			
Coaxial Cable	Huber Suhner	RG 214/U	W22.03	11/20/2019	11/19/2020			
Coaxial Cable	Huber Suhner	SUCOFLEX 104	MY17413/4	11/20/2019	11/19/2020			

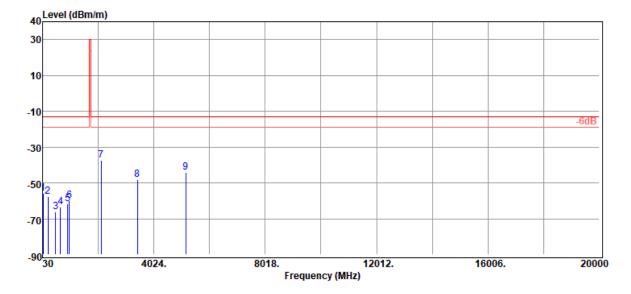
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#### 9.5 **Measurement Result:**

:E2/2020/50040
:LTE B4
:TX CH LOW
:H Plan
:1720 MHz

Test Date	:2020-06-02
Temp./Humi.	:21.7/71
Antenna Pol.	:VERTICAL
Engineer	:Kailin

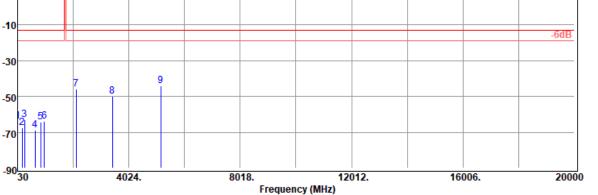


Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
49.40	-55.75	-41.42	-13.59	-0.74	-13.00	-42.75
225.94	-57.66	-55.75	0.04	-1.95	-13.00	-44.66
498.51	-66.02	-62.81	-0.69	-2.52	-13.00	-53.02
667.29	-63.28	-61.30	0.35	-2.33	-13.00	-50.28
928.22	-61.86	-60.33	1.78	-3.31	-13.00	-48.86
994.18	-59.80	-58.10	1.68	-3.38	-13.00	-46.80
2128.90	-37.55	-42.60	9.37	-4.32	-13.00	-24.55
3440.00	-48.34	-55.61	12.50	-5.23	-13.00	-35.34
5160.00	-44.30	-50.41	12.66	-6.55	-13.00	-31.30

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Report Number	:E2/2020/50040	Test Date	:2020-06-02
Operation Mode	:LTE B4	Temp./Humi.	:21.7/71
Test Mode	:TX CH LOW	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plan	Engineer	:Kailin
Test Frequency	:1720 MHz		
40 Level (dBm/m)			
30			
10			
-10			-6dB

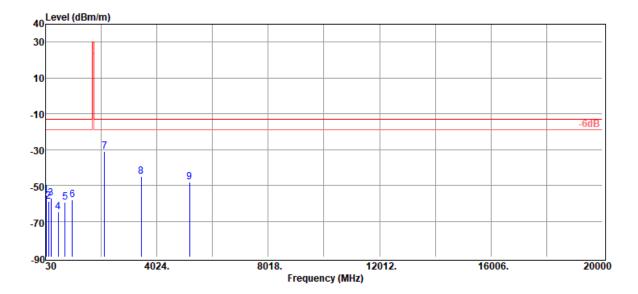


Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
39.70	-63.76	-40.15	-22.88	-0.73	-13.00	-50.76
192.96	-67.49	-65.28	-0.43	-1.78	-13.00	-54.49
282.20	-63.22	-59.80	-1.23	-2.19	-13.00	-50.22
651.77	-68.79	-66.62	0.04	-2.21	-13.00	-55.79
868.08	-64.55	-62.61	1.33	-3.27	-13.00	-51.55
995.15	-63.83	-62.15	1.72	-3.40	-13.00	-50.83
2128.90	-45.88	-50.93	9.37	-4.32	-13.00	-32.88
3440.00	-50.09	-57.36	12.50	-5.23	-13.00	-37.09
5160.00	-44.23	-50.34	12.66	-6.55	-13.00	-31.23



Report Number	:E2/2020/50040
Operation Mode	:LTE B4
Test Mode	:TX CH MID
EUT Pol	:H Plan
Test Frequency	:1732.5 MHz

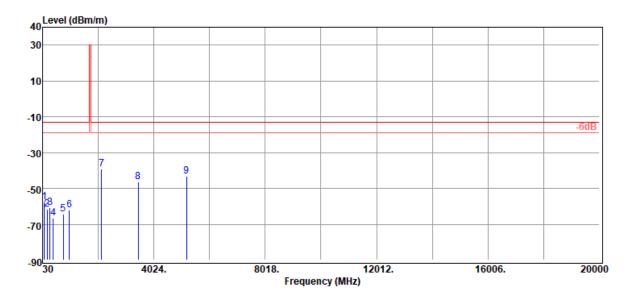
Test Date	:2020-06-02
Temp./Humi.	:21.7/71
Antenna Pol.	:VERTICAL
Engineer	:Kailin



Freq.	EIRP/ERP	SG	Antenna	Cable	Limit	Margin
MHz	dBm	Output Level dBm	Gain dBi/dBd	Loss dB	dBm	dB
49.40	-55.37	-41.04	-13.59	-0.74	-13.00	-42.37
142.52	-58.82	-51.36	-5.91	-1.55	-13.00	-45.82
226.91	-57.38	-55.41	-0.02	-1.95	-13.00	-44.38
485.90	-64.66	-61.19	-0.81	-2.66	-13.00	-51.66
729.37	-59.31	-57.35	0.74	-2.70	-13.00	-46.31
993.21	-58.13	-56.39	1.63	-3.37	-13.00	-45.13
2143.10	-30.91	-35.82	9.26	-4.35	-13.00	-17.91
3465.00	-45.10	-52.24	12.44	-5.30	-13.00	-32.10
5197.50	-48.12	-54.33	12.88	-6.67	-13.00	-35.12



Report Number	:E2/2020/50040	Test Date	:2020-06-02
Operation Mode	:LTE B4	Temp./Humi.	:21.7/71
Test Mode	:TX CH MID	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plan	Engineer	:Kailin
Test Frequency	:1732.5 MHz		

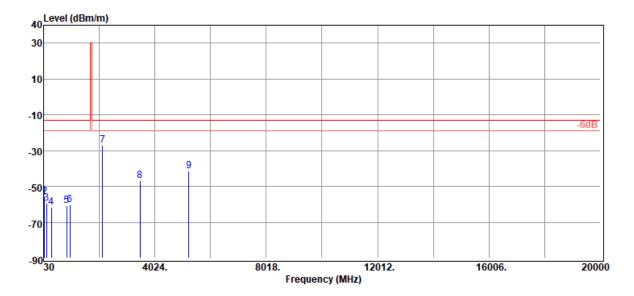


Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
89.17	-57.55	-49.94	-6.57	-1.04	-13.00	-44.55
191.99	-61.77	-59.53	-0.47	-1.77	-13.00	-48.77
299.66	-60.78	-57.70	-0.81	-2.27	-13.00	-47.78
410.24	-66.69	-62.63	-1.08	-2.98	-13.00	-53.69
773.99	-64.15	-61.99	0.68	-2.84	-13.00	-51.15
997.09	-62.09	-60.36	1.69	-3.42	-13.00	-49.09
2143.10	-39.37	-44.28	9.26	-4.35	-13.00	-26.37
3465.00	-46.15	-53.29	12.44	-5.30	-13.00	-33.15
5197.50	-43.20	-49.41	12.88	-6.67	-13.00	-30.20



Report Number	:E2/2020/50040	Test Da
Operation Mode	:LTE B4	Temp./ł
Test Mode	:TX CH HIGH	Antenna
EUT Pol	:H Plan	Engine
Test Frequency	:1745 MHz	

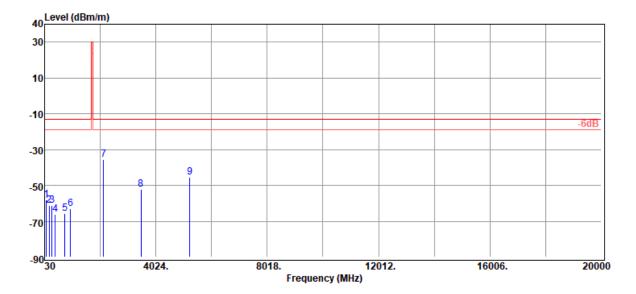
Test Date	:2020-06-02
Temp./Humi.	:21.6/71
Antenna Pol.	:VERTICAL
Engineer	:Kailin



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
48.43	-55.49	-40.19	-14.56	-0.74	-13.00	-42.49
62.01	-55.91	-48.04	-6.99	-0.88	-13.00	-42.91
141.55	-59.30	-51.69	-6.07	-1.54	-13.00	-46.30
318.09	-61.76	-58.54	-0.71	-2.51	-13.00	-48.76
857.41	-60.98	-59.37	1.32	-2.93	-13.00	-47.98
978.66	-60.20	-58.32	1.50	-3.38	-13.00	-47.20
2150.20	-27.18	-32.02	9.20	-4.36	-13.00	-14.18
3490.00	-46.80	-53.78	12.34	-5.36	-13.00	-33.80
5235.00	-41.57	-48.17	13.18	-6.58	-13.00	-28.57



Report Number	:E2/2020/50040	Test Date	:2020-06-02
Operation Mode	:LTE B4	Temp./Humi.	:21.6/71
Test Mode	:TX CH HIGH	Antenna Pol.	:HORIZONTAL
EUT Pol	:H Plan	Engineer	:Kailin
Test Frequency	:1745 MHz		



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
88.20	-58.26	-50.67	-6.55	-1.04	-13.00	-45.26
191.02	-61.42	-59.24	-0.42	-1.76	-13.00	-48.42
295.78	-61.19	-58.00	-0.92	-2.27	-13.00	-48.19
415.09	-66.34	-62.23	-1.18	-2.93	-13.00	-53.34
764.29	-65.72	-63.85	0.82	-2.69	-13.00	-52.72
958.29	-63.14	-61.18	1.63	-3.59	-13.00	-50.14
2150.20	-35.45	-40.29	9.20	-4.36	-13.00	-22.45
3490.00	-52.25	-59.23	12.34	-5.36	-13.00	-39.25
5235.00	-45.47	-52.07	13.18	-6.58	-13.00	-32.47

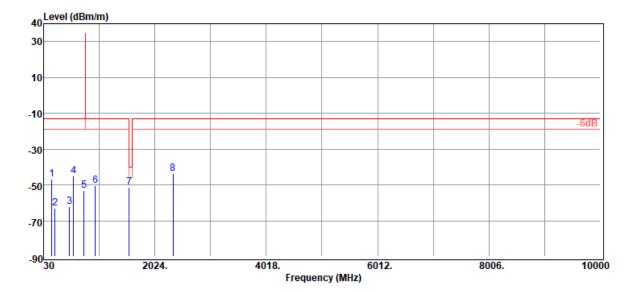


:2020-06-02

:21.8/72 :VERTICAL

:Kailin

:E2/2020/50040	Test Date
:LTE B13	Temp./Humi.
:TX CH MID	Antenna Pol.
:H Plan	Engineer
:782 MHz	
	:LTE B13 :TX CH MID :H Plan



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
175.50	-46.91	-43.84	-1.45	-1.62	-13.00	-33.91
234.67	-62.99	-60.52	-0.50	-1.97	-13.00	-49.99
495.60	-62.32	-59.06	-0.74	-2.52	-13.00	-49.32
567.38	-44.86	-41.40	-0.86	-2.60	-13.00	-31.86
751.68	-53.18	-51.31	0.75	-2.62	-13.00	-40.18
958.29	-50.56	-48.60	1.63	-3.59	-13.00	-37.56
1564.00	-51.49	-56.59	8.84	-3.74	-40.00	-11.49
2346.00	-43.83	-48.96	9.67	-4.54	-13.00	-30.83

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report Number Operation Mode Test Mode EUT Pol Test Frequency	:E2/2020/50040 :LTE B13 :TX CH MID :H Plan :782 MHz		Test Da Temp./H Antenna Enginee	lumi. a Pol.	:2020-06-02 :21.8/72 :HORIZONTAL :Kailin
Level (dBm/m)					
30					
10					
-10					-6dB
-30					
-50 2 3 4 1 6 7	8				
-70					
-90 <mark>-100-100-100-100-100-100-100-100-100-1</mark>	2024.	1018. (MHz)	6012.	3006.	10000

Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
34.85	-70.91	-43.12	-27.17	-0.62	-13.00	-57.91
176.47	-51.84	-48.81	-1.41	-1.62	-13.00	-38.84
567.38	-51.00	-47.54	-0.86	-2.60	-13.00	-38.00
752.65	-46.50	-44.61	0.74	-2.63	-13.00	-33.50
817.64	-66.94	-65.42	1.36	-2.88	-13.00	-53.94
958.29	-57.56	-55.60	1.63	-3.59	-13.00	-44.56
1564.00	-58.18	-63.28	8.84	-3.74	-40.00	-18.18
2346.00	-47.29	-52.42	9.67	-4.54	-13.00	-34.29

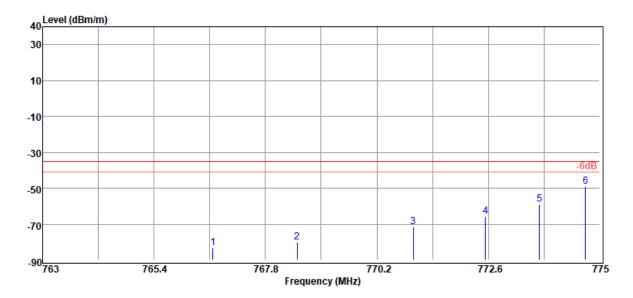
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# (763MHz~775MHz)

Report Number	:E2/2020/50040
Operation Mode	:LTE B13
Test Mode	:TX CH MID
EUT Pol	:H Plan
Test Frequency	:782 MHz

Test Date	:2020-06-02
Temp./Humi.	:21.8/72
Antenna Pol.	:VERTICAL
Engineer	:Kailin



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
766.67	-83.23	-81.36	0.82	-2.69	-35.00	-48.23
768.48	-80.29	-78.40	0.80	-2.69	-35.00	-45.29
770.98	-71.71	-69.74	0.76	-2.73	-35.00	-36.71
772.54	-65.76	-63.70	0.72	-2.78	-35.00	-30.76
773.70	-59.15	-57.01	0.69	-2.83	-35.00	-24.15
774.69	-49.28	-47.08	0.66	-2.86	-35.00	-14.28

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report Number Operation Mode Test Mode EUT Pol Test Frequency	:E2/2020/50040 :LTE B13 :TX CH MID :H Plan :782 MHz			Test Date Temp./Hu Antenna I Engineer	ımi. Pol.	:2020-06-02 :21.8/72 :HORIZONTAL :Kailin
Level (dBm/m)						
40 30						
10						
-10						
-30						
						-6dB
-50						_ 6
-70			3		4	5
1			$\begin{vmatrix} 2 \\   \end{vmatrix}$			
-90 <mark>-</mark> 763	765.4	767.8 Eroquono	770.2	77:	2.6	775

Frequency (MHz)

Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
763.73	-85.39	-83.52	0.82	-2.69	-35.00	-50.39
769.35	-82.18	-80.29	0.80	-2.69	-35.00	-47.18
770.54	-78.17	-76.23	0.77	-2.71	-35.00	-43.17
773.64	-69.38	-67.24	0.69	-2.83	-35.00	-34.38
774.41	-65.62	-63.44	0.67	-2.85	-35.00	-30.62
774.74	-61.98	-59.77	0.66	-2.87	-35.00	-26.98

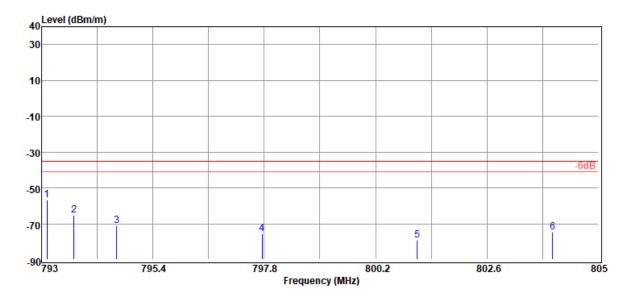
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# (793MHz~805MHz)

Report Number	:E2/2020/50040
Operation Mode	:LTE B13
Test Mode	:TX CH MID
EUT Pol	:H Plan
Test Frequency	:782 MHz

Test Date	:2020-06-02
Temp./Humi.	:21.8/72
Antenna Pol.	:VERTICAL
Engineer	:Kailin



Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.12	-56.63	-54.59	0.89	-2.93	-35.00	-21.63
793.70	-65.34	-63.32	0.88	-2.90	-35.00	-30.34
794.62	-71.15	-69.15	0.87	-2.87	-35.00	-36.15
797.75	-75.53	-73.75	0.95	-2.73	-35.00	-40.53
801.10	-79.36	-77.75	1.03	-2.64	-35.00	-44.36
804.02	-74.62	-73.05	1.07	-2.64	-35.00	-39.62

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report Number Operation Mode Test Mode EUT Pol Test Frequency	:E2/2020/50040 :LTE B13 :TX CH MID :H Plan :782 MHz		Test Date Temp./Hur Antenna P Engineer	
Level (dBm/m)				
30				
10				
-10				
-30				
-50				-6dB
-70	4	5	6	
-90 <mark>793</mark>	795.4 7	97.8 800 Frequency (MHz)	.2 802.	6 805

Freq.	EIRP/ERP	SG Output Level	Antenna Gain	Cable Loss	Limit	Margin
MHz	dBm	dBm	dBi/dBd	dB	dBm	dB
793.28	-62.98	-60.94	0.88	-2.92	-35.00	-27.98
793.53	-63.61	-61.58	0.88	-2.91	-35.00	-28.61
793.96	-65.65	-63.64	0.88	-2.89	-35.00	-30.65
796.67	-71.01	-69.15	0.92	-2.78	-35.00	-36.01
798.95	-79.14	-77.45	0.99	-2.68	-35.00	-44.14
802.06	-80.64	-79.04	1.04	-2.64	-35.00	-45.64

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



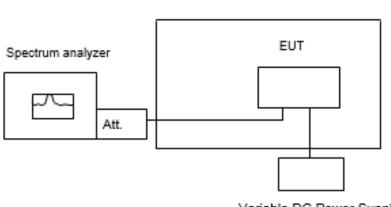
Report No.: E2/2020/50040 Page 68 of 77

# 10 FREQUENCY STABILITY MEASUREMENT

# 10.1 Standard Applicabl

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

# 10.2 Test Set-up



Temperature Chamber

# **10.3 Measurement Procedure**

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Set chamber temperature to  $25^{\circ}$ C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint as declared by the manufacturer, record the maximum frequency change.

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Variable DC Power Supply

Note: Measurement setup for testing on Antenna connector

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



# 10.4 Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
DC Block	PASTERNACK	PE8210	RF32	11/20/2019	11/19/2020				
Spectrum Analyzer	KEYSIGHT	N9010B	MY59070240	04/14/2019	04/13/2021				
Temperature Chamber	TERCHY	MHK-120LK	1020582	07/09/2019	07/08/2020				
Splitter	Marvelous	MVE8586	RF265	11/20/2019	11/19/2020				
Attenuator	Marvelous	MVE2213-10	RF31	11/20/2019	11/19/2020				
Radio Communication Analyer	Anritsu	MT8820C	6201107337	07/17/2019	07/16/2020				

#### 10.5 **Measurement Result**

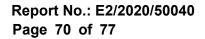
Note: The battery is rated 12Vdc.

Reference Freq.:		LTE B4 Mid Channel		MHz 20M QPSK CH 20175
Power Supply Vdc	Temp. (°C)	Freq. (MHz)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)
	Freq.	ERROR vs. VO	DLTAGE	
13.3	25	1732.500008	8	4331
12	25	1732.499997	-3	4331
11.6	25	1732.499996	-4	4331
11.5 (End Point)	25	1732.499999	-1	4331
	Free	q. ERROR vs. <sup>-</sup>	Temp.	
12	-30	1732.500007	7	4331
12	-20	1732.499997	-3	4331
12	-10	1732.500008	8	4331
12	0	1732.500003	3	4331
12	10	1732.499997	-3	4331
12	20	1732.500005	5	4331
12	30	1732.499997	-3	4331
12	40	1732.500007	7	4331
12	50	1732.499997	-3	4331

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Reference Freq.:	LTE B13 Mid Channel		782	MHz 10M QPSK CH 23230
Power Supply Vdc	Temp. (°C)	Delta (Hz)	Limit = +/- 2.5 ppm (Hz)	
	Freq.	ERROR vs. VO	DLTAGE	
13.3	25	782.000008	8	1955
12	25	781.999997	-3	1955
11.6	25	781.999996	-4	1955
11.5 (End Point)	25	781.999995	-5	1955
	Free	q. ERROR vs.	Temp.	
12	-30	781.999995	-5	1955
12	-20	782.000008	8	1955
12	-10	782.000006	6	1955
12	0	782.000004	4	1955
12	10	782.000001	1	1955
12	20	781.999999	-1	1955
12	30	782.000002	2	1955
12	40	781.999997	-3	1955
12	50	782.000006	6	1955

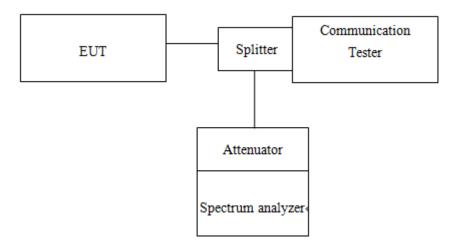


# 11 PEAK TO AVERAGE RATIO

# 11.1 Standard Applicable

The peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

# 11.2 Test SET-UP



# 11.3 Measurement Procedure

- 1. KDB 971168 D01 is employed as the following procedure is proper adjusted accordingly:
- 2. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth; & internal =1ms
- 3. Set the number of counts to a value that stabilizes the measured CCDF curve.

# 11.4 Measurement Equipment Used

Conducted Emission (measured at antenna port) Test Site									
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.				
DC Block	PASTERNACK	PE8210	RF32	11/20/2019	11/19/2020				
Spectrum Analyzer	KEYSIGHT	N9010B	MY59070240	04/14/2019	04/13/2021				
Temperature Chamber	TERCHY	MHK-120LK	1020582	07/09/2019	07/08/2020				
Splitter	Marvelous	MVE8586	RF265	11/20/2019	11/19/2020				
Attenuator	Marvelous	MVE2213-10	RF31	11/20/2019	11/19/2020				
Radio Communication Analyer	Anritsu	MT8820C	6201107337	07/17/2019	07/16/2020				

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#### 11.5 **Measurement Result**

LTE BAND 4									
Chanr	nel band	width: 1.4	MHz	Channel bandwidth: 3MHz					
Freq.	СН	PAPR	(dB)	Freq.	СН	PAPR (dB)			
(MHz)	СП	16QAM	Limit	(MHz)	CH	16QAM	Limit		
1710.7	19957	6.32	13	1711.5	19965	6.45	13		
1732.5	20175	6.49	13	1732.5	20175	6.45	13		
1754.3	20393	6.42	13	1753.5	20385	6.50	13		

LTE BAND 4									
Chan	nel ban	dwidth: 5N	/Hz	Chan	nel band	lwidth: 10l	MHz		
Freq.	СН	PAPR	(dB)	Freq.	СН	PAPR	(dB)		
(MHz)	СП	16QAM	Limit	(MHz)	CH	16QAM	Limit		
1712.5	19957	6.20	13	1715.0	20000	6.42	13		
1732.5	20175	6.36	13	1732.5	20175	6.40	13		
1752.5	20375	6.41	13	1750.0	20350	6.30	13		

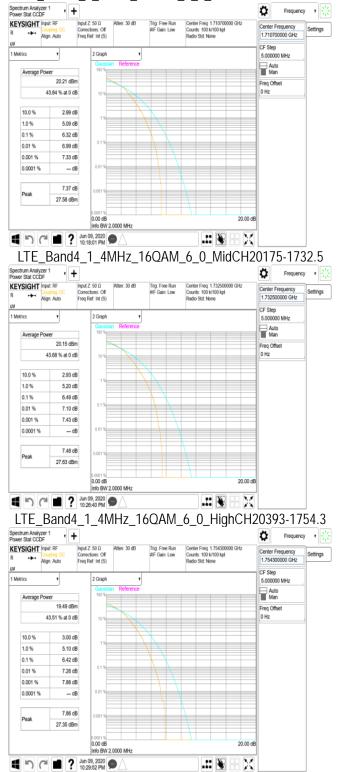
LTE BAND 4								
Chan	nel band	lwidth: 15l	MHz	Channel bandwidth: 20MHz				
Freq.	СН	PAPR	(dB)	Freq.	CH PAPR (dB)		(dB)	
(MHz)	CII	16QAM	Limit	(MHz)	CH	16QAM	Limit	
1717.5	20025	6.32	13	1720.0	20050	6.44	13	
1732.5	20175	6.28	13	1732.5	20175	6.41	13	
1747.5	20325	6.30	13	1745.0	20300	6.37	13	

LTE BAND 13									
Chan	nel ban	dwidth: 5N	/Hz	Channel bandwidth: 10MHz					
Freq.	СН	PAPR	(dB)	Freq.	CH PAPR (dB)		(dB)		
(MHz)	СП	16QAM	Limit	(MHz)	CH	16QAM	Limit		
779.5	23205	6.74	13						
782.0	23230	6.59	13	782.0	23230	6.46	13		
784.5	23255	6.91	13						

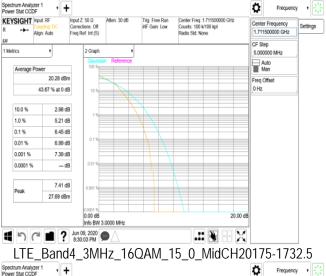
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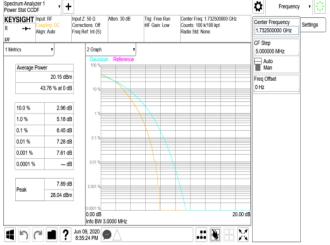
## Report No.: E2/2020/50040 Page 73 of 77

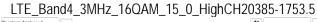


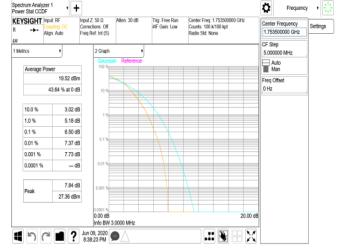
#### LTE\_Band4\_1\_4MHz\_16QAM\_6\_0\_LowCH19957-1710.7



LTE\_Band4\_3MHz\_16QAM\_15\_0\_LowCH19965-1711.5





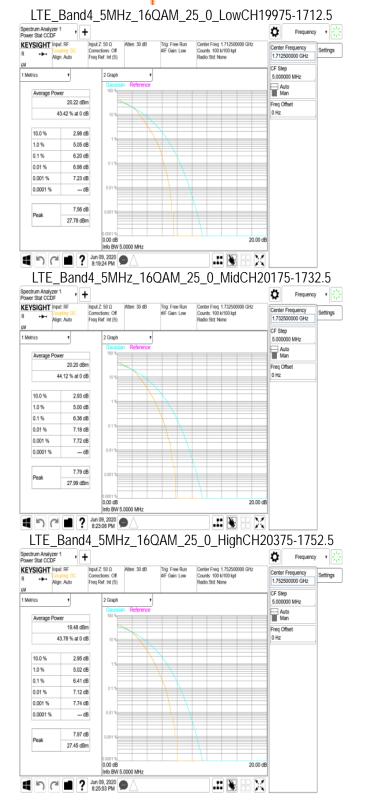


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# Report No.: E2/2020/50040 Page 74 of 77

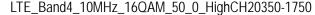


#### LTE\_Band4\_10MHz\_16QAM\_50\_0\_LowCH20000-1715









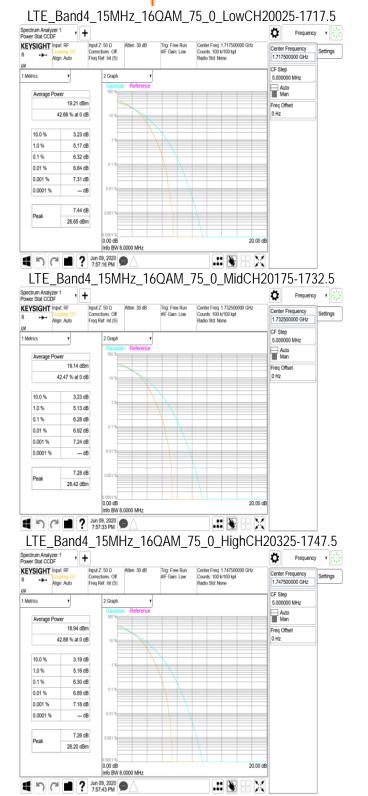


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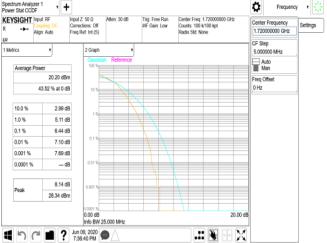
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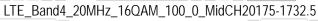


# Report No.: E2/2020/50040 Page 75 of 77



#### LTE\_Band4\_20MHz\_16QAM\_100\_0\_LowCH20050-1720











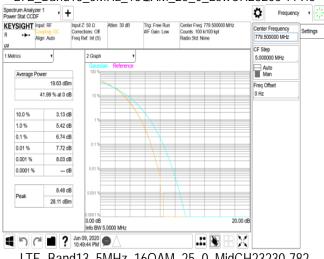
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# Report No.: E2/2020/50040 Page 76 of 77

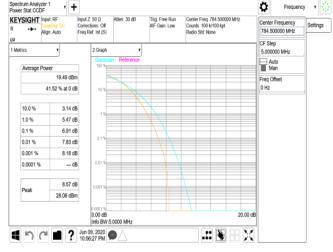




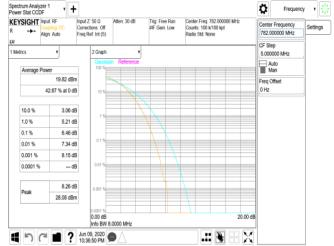
LTE\_Band13\_5MHz\_16QAM\_25\_0\_MidCH23230-782



#### LTE\_Band13\_5MHz\_16QAM\_25\_0\_HighCH23255-784.5



#### LTE\_Band13\_10MHz\_16QAM\_50\_0\_MidCH23230-782



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Report No.: E2/2020/50040 Page 77 of 77

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