

10MHz Channel Bandwidth Full RB						
Lower Band Edge		Upper Band Edge				
Spectrum Analyzer 1 Sepectrum Analyzer 1 S	Marker Period Select Marker Select Marker Topogenery Select 07 50000 Mérz Penal Band Power Penal Band Power Penal Band Power Penal Band Flore Penal Band Flore Penal Band Flore Penal Band Flore Marker N dB Poperits Solar et all On Counter	Spectrum Analyzer 1 Smert SA KEYSIGHT Input BS Prog Plan Loss Prog Plan Loss Plan				
4 D C I ? Nov 01, 2021						



Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Gordon Qi	Test Date	2021/11/01
Test Band	LTE Band 41	Test Result	Pass









20MHz Channel Bandwidth - 1RB						
Lower Band Edge Upper Band Edge						
Spectrum Analyzer 1 Spectrum Analyzer 2 Spectrum Analyzer 3 Spectrum Analyzer 4 Prequency Carlos Emaions Spectrum Analyzer 4 Spectrum Analyzer 4	tings					







20MHz Channel Bandwidth - Full RB						
Lower Band Edge	Upper Band Edge					
Spectra Multizer 1 Bipectra Multizer 2 Dipectra Multizer 3 Dipectra Multizer 3 <thdipectra 3<="" multizer="" th=""> Dipectra Multizer 3</thdipectra>	Image: Part of the second se					



4.6. Peak to Average Ratio

4.6.1.Test Limit

A peak to average ratio measurement is performed at the conducted port of the EUT. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) measurement profile is used to determine the largest deviation between the average and the peak power of the EUT in a given bandwidth. The CCDF curve shows how much time the peak waveform spends at or above a given average power level. The percent of time the signal spends at or above the level defines the probability for that particular power level.

4.6.2.Test Procedure Used

ANSI C63.26-2015 - Section 5.2.3.4 (CCDF).

4.6.3.Test Setting

- 1. Set the resolution / measurement bandwidth \geq signal's occupied bandwidth
- 2. Set the number of counts to a value that stabilizes the measured CCDF curve
- 3. Record the maximum PARR level associated with a probability of 0.1%

4.6.4.Test Setup





4.6.5.Test Result

Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Caitlin Chen	Test Date	2021/10/29
Test Band	Band 4/66		

Channel	Frequency	Channel	Peak to	Limit	Result
No.	(MHz)	Bandwidth	Average Ratio	(dB)	
		(MHz)	(dB)		
QPSK					
132322	1745.0	20	4.96	≤ 13.00	Pass
16QAM					
132322	1745.0	20	5.76	≤ 13.00	Pass
64QAM					
132322	1745.0	20	6.59	≤ 13.00	Pass
256QAM					
132322	1745.0	20	6.60	≤ 13.00	Pass





Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Caitlin Chen	Test Date	2021/10/30
Test Band	Band 5		

Channel	Frequency	Channel	Peak to	Limit	Result
No.	(MHz)	Bandwidth	Average Ratio	(dB)	
		(MHz)	(dB)		
QPSK					
26915	836.5	10	5.22	≤ 13.00	Pass
16QAM					
26915	836.5	10	5.92	≤ 13.00	Pass
64QAM					
26915	836.5	10	6.50	≤ 13.00	Pass
256QAM					
26915	836.5	10	6.49	≤ 13.00	Pass





Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Caitlin Chen	Test Date	2021/10/30
Test Band	LTE Band 12/17		

Channel	Frequency	Channel	Peak to	Limit	Result
No.	(MHz)	Bandwidth	Average Ratio	(dB)	
		(MHz)	(dB)		
QPSK					
26365	707.5	10	5.22	≤ 13.00	Pass
16QAM					
26365	707.5	10	5.92	≤ 13.00	Pass
64QAM					
26365	707.5	10	6.47	≤ 13.00	Pass
256QAM					
26365	707.5	10	6.43	≤ 13.00	Pass





Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Caitlin Chen	Test Date	2021/10/30
Test Band	LTE Band 41		

Channel	Frequency	Channel	Peak to	Limit	Result
No.	(MHz)	Bandwidth	Average Ratio	(dB)	
		(MHz)	(dB)		
QPSK					
40620	2593.0	20	5.40	≤ 13.00	Pass
16QAM					
40620	2593.0	20	6.05	≤ 13.00	Pass
64QAM					
40620	2593.0	20	6.56	≤ 13.00	Pass
256QAM					
40620	2593.0	20	6.61	≤ 13.00	Pass





4.7. Conducted Spurious Emissions

4.7.1.Test Limit

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst-case configuration. All modes of operation were investigated and the worst-case configuration results are reported in this section.

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.

For Band 41 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 55 + 10 log(P) dB.

4.7.2.Test Procedure Used

ANSI C63.26-2015 - Section 5.7

4.7.3.Test Setting

- 1. Set the analyzer frequency to low, mid, high channel.
- 2. RBW = 1MHz
- 3. VBW ≥ 3*RBW
- 4. Sweep time = auto
- 5. Detector = power averaging (rms)
- 6. Set sweep trigger to "free run."
- 7. User gate triggered such that the analyzer only sweeps when the device is transmitting at full power.
- 8. Trace average at least 100 traces in power averaging (rms) mode if sweep is set to auto-couple. To accurately determine the average power over the on and off time of the transmitter, it can be necessary to increase the number of traces to be averaged above 100, or if using a manually configured sweep time, increase the sweep time.



4.7.4.Test Setup





4.7.5.Test Result

Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6
Test Engineer	Caitlin Chen	Test Date	2021/11/01
Test Band	LTE Band 4/66, 1RB, QPSK		

Channel	Frequency (MHz)	Channel Bandwidth (MHz)	Frequency Range (MHz)	Max Spurious Emissions (dBm)	Limit (dBm)	Result
131979	1710.7	1.4	30 ~ 20000	-33.80	≤ -13.00	Pass
132322	1745.0	1.4	30 ~ 20000	-30.88	≤ -13.00	Pass
132665	1779.3	1.4	30 ~ 20000	-31.26	≤ -13.00	Pass
131987	1711.5	3	30 ~ 20000	-31.79	≤ -13.00	Pass
132322	1745.0	3	30 ~ 20000	-31.99	≤ -13.00	Pass
132657	1778.5	3	30 ~ 20000	-31.85	≤ -13.00	Pass
131997	1712.5	5	30 ~ 20000	-31.21	≤ -13.00	Pass
132322	1745.0	5	30 ~ 20000	-32.59	≤ -13.00	Pass
132647	1777.5	5	30 ~ 20000	-31.81	≤ -13.00	Pass
132022	1715.0	10	30 ~ 20000	-31.53	≤ -13.00	Pass
132322	1745.0	10	30 ~ 20000	-31.14	≤ -13.00	Pass
132622	1775.0	10	30 ~ 20000	-31.82	≤ -13.00	Pass
132047	1717.5	15	30 ~ 20000	-31.29	≤ -13.00	Pass
132322	1745.0	15	30 ~ 20000	-31.92	≤ -13.00	Pass
132597	1772.5	15	30 ~ 20000	-31.93	≤ -13.00	Pass
132072	1720.0	20	30 ~ 20000	-31.39	≤ -13.00	Pass
132322	1745.0	20	30 ~ 20000	-31.46	≤ -13.00	Pass
132572	1770.0	20	30 ~ 20000	-31.90	≤ -13.00	Pass















Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6	
Test Engineer	Caitlin Chen	Test Date	2021/11/03	
Test Band	LTE Band 5, 1RB, QPSK			

Channel	Frequency	Channel	Frequency	Max Spurious	Limit	Result
	(101112)	(MHz)	(MHz)	(dBm)	(UDIII)	
26797	824.7	1.4	30 ~ 10000	-35.45	≤ -13.00	Pass
26915	836.5	1.4	30 ~ 10000	-35.77	≤ -13.00	Pass
27033	848.3	1.4	30 ~ 10000	-35.46	≤ -13.00	Pass
26805	825.5	3	30 ~ 10000	-35.51	≤ -13.00	Pass
26915	836.5	3	30 ~ 10000	-35.00	≤ -13.00	Pass
27025	847.5	3	30 ~ 10000	-35.52	≤ -13.00	Pass
26815	826.5	5	30 ~ 10000	-35.73	≤ -13.00	Pass
26915	836.5	5	30 ~ 10000	-35.88	≤ -13.00	Pass
27015	846.5	5	30 ~ 10000	-35.81	≤ -13.00	Pass
26840	829.0	10	30 ~ 10000	-35.29	≤ -13.00	Pass
26915	836.5	10	30 ~ 10000	-35.79	≤ -13.00	Pass
26990	844.0	10	30 ~ 10000	-34.35	≤ -13.00	Pass











Product	5G High Power mmWave Outdoor CPE	Test Site	WZ-SR6	
Test Engineer	Caitlin Chen	Test Date	2021/11/03	
Test Band	LTE Band 12/17, 1RB, QPSK			

Channel	Frequency	Channel	Frequency	Max Spurious	Limit	Result
	(IVIH2)	(MHz)	(MHz)	(dBm)	(автт)	
23017	699.7	1.4	30 ~ 10000	-35.73	≤ -13.00	Pass
23095	707.5	1.4	30 ~ 10000	-35.56	≤ -13.00	Pass
23173	715.3	1.4	30 ~ 10000	-35.43	≤ -13.00	Pass
23025	700.5	3	30 ~ 10000	-34.91	≤ -13.00	Pass
23095	707.5	3	30 ~ 10000	-35.20	≤ -13.00	Pass
23165	714.5	3	30 ~ 10000	-34.86	≤ -13.00	Pass
23035	701.5	5	30 ~ 10000	-35.64	≤ -13.00	Pass
23095	707.5	5	30 ~ 10000	-35.33	≤ -13.00	Pass
23155	713.5	5	30 ~ 10000	-35.17	≤ -13.00	Pass
23060	704.0	10	30 ~ 10000	-35.29	≤ -13.00	Pass
23095	707.5	10	30 ~ 10000	-34.92	≤ -13.00	Pass
23130	711.0	10	30 ~ 10000	-34.43	≤ -13.00	Pass