

The Anthem might have 'only' 100mm suspension travel, but it's fine as a general purpose trail bike



THE WHEEL DEAL

If you want to go further or faster, are you better off with suspension at both ends or bigger wheels? Dan Joyce tests an Giant Anthem X5 and a Giant XTC 29

Giant describe both the Anthem X5 and the XTC 29 using the words 'racing' and 'weekend epic'. For a cross-country mountain bike that will go fast will also go far. In both cases it's about efficiency.

What makes an efficient cross-country bike? Opinions have changed over the years. First it was no suspension – 80mm forks were for downhillers! Then it was front suspension only. Now short-travel full-suspension is common. Suspension has been increasingly adopted because it's improved and because it isn't primarily for absorbing the impact from drops, like aircraft landing gear. It improves control. It improves comfort, which reduces rider fatigue. And it helps keep the wheels in contact with

the ground, which conserves momentum.

But there's another way to address off-road efficiency: bigger wheels. Compared to 26-inch wheels, 29-inch wheels roll better; shrink the impact of bumps; and offer comfort and traction benefits. Like full suspension bikes, 29ers are more expensive and heavier. It's not quite the same suite of pros and cons, but the price and purpose of some 29er hardtails and 26-inch full-suspension bikes are very close – as they are with these two Giants.

A fairer comparison would be between the Anthem X4 and the XTC 29. Giant didn't have any X4s available, so we tested the X5 instead. It's a new model with a more economical specification, no doubt launched in response to rising bike prices so that Giant



The Anthem X5 frame, with its tapered head tube and Maestro suspension (above right) is excellent

would still have an 'entry level' Anthem at under £1500.

Last year Giant had two XTC 29ers for the UK market. This year there's just the one, although there's also a 29er Anthem (£2,950) and a 29er Talon (£800). Giant were late in bringing out a 29er, but that means they haven't had to go through a number of iterations to design a bike that works well.

Frame and fork

Giant pioneered compact aluminium frames, and the XTC 29's is well designed for the demands of bigger wheels. There's plenty of clearance above the top tube, and the bottom bracket is dropped relative to the wheel axles so you're not jacked into the air. The head tube is short to



keep the handlebar height down. Where the down tube meets the head tube it's curved, which may strengthen it and will provide fork crown clearance if you jack-knife the bars.

At the rear end the chainstay brace is omitted so that the bigger wheel can sit closer to the seat tube. A steep head angle complements the tighter rear triangle, reducing the front centres distance – without creating toe overlap – and yielding a wheelbase that's shorter than the 26-inch wheel Anthem's.

That steep head angle and the greater offset of this 29er fork more than compensate for the effect the bigger wheel has on steering trail. Trail is less than it is on the Anthem. To reduce fork flex when steering, Giant have specified a tapered fork, which has a 1 1/8in upper headset race and a 1 1/2in lower race. The load-bearing bottom race is thus beefed up. The 100mm Fox fork has a screw-through 15mm axle, which improves the wheel's lateral stiffness compared to a standard 9mm QR. It also means you can't accidentally eject the front wheel.

The Anthem X5 frame is better yet. It's the same aluminium frame used on the more expensive Anthem X bikes and it uses the same 100mm-travel twin-link four-bar Maestro rear suspension design. The X5's rear shock – a RockShox Monarch R – offers less fine-tuning and finesse than those on the dearer Anthems. For less experienced riders, however, the simplicity of the solo-air inflation (one Schrader

valve fills positive and negative air chambers simultaneously) is a strength, as are the sag gradients on the damper body. It's rebound adjustable too – that is, you can set how quickly the shock uncompresses.

Given that the Anthem X5 costs £1400 complete and an Anthem X frame costs nearly £1200 – albeit with a nicer shock – you can see what a bargain you're getting. Clearly Giant have had to make some component compromises elsewhere. Fortunately, they haven't sacrificed the fork. This 100mm solo-air RockShox Recon is a good match to the rear shock. It lacks the stiff 15mm axle of the XTC 29's Fox fork but does have the tapered steerer.

Equipment

Twenty-nine inch wheels use 700C rims, like road and touring bikes. They need to be wider to accommodate fatter tyres and to add sideways stiffness to the wheels. The XTC 29's rims are larger diameter versions of those on the Anthem X5, with a 19mm width at the bead seat. Given the fork and axle reinforcement, the front didn't seem any less stiff than a 26-inch wheel.

Both bikes are fitted with lightly treaded Maxxis tyres, which struggled for traction in British winter conditions. At equal pressures, climbing and cornering grip was better with the 29er tyres. In the thickest mud, I found I could run the 29er tyres even softer – down to 1bar – without pinch puncturing. The longer footprint of the 29er tyre doubtless spreads your weight better.

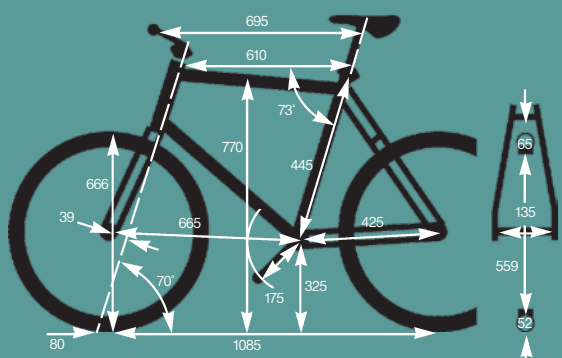
Ten percent bigger wheels raise the gearing by 10% too. So the XTC 29 has a cassette that goes all the way to 36-teeth. With a 24T small chainring, bottom gear is still higher than the Anthem X5's 22x34. Oddly it didn't feel it. On the XTC 29 I often had a gear or two in reserve on climbs that had the Anthem in bottom gear. The drivetrain is mostly Shimano SLX, which apart from being a bit heavier is just as good as the XT that's used for the rear mech.



TECH SPEC

Bike	Giant anthem X5
Price	£1400
Weight	12.49kg (27.48lb), no pedals
Size	M
Sizes available	S (16), M (18), L (20), XL (22in)
Frame & fork:	AluX SL aluminium, hydroformed, fittings for 1 bottle. 100mm Maestro rear suspension using RockShox Monarch R shock. RockShox Recon Gold TK Solo Air fork, tapered steerer, 100mm travel.
Wheels:	52-559 Maxxis Crossmark tyres, Giant S-XC2 double-wall aluminium rims, Formula hubs, 32x3 spokes
Transmission	no pedals, Shimano M542 chainset 175mm, 22/32/42T chainrings, Shimano HG73 chain, Shimano HG50 11-34T cassette. Shimano Alivio 27-speed shifters, Shimano Alivio front mech, Shimano Deore Shadow rear mech. 27-speed, 17-100 inches.
Braking	Shimano M445 hydraulic disc with 160mm rotors
Steering & seating	670mm Giant Connect low-rise handlebar, 100mm Giant Connect stem, Giant MTB OverDrive headset. Giant Cross Trail D2 saddle, 30.9mm x 375mm Giant Connect seatpost
Accessories	none
Contact	giant-bicycles.com

Measurements taken with suspension unsagged, in millimetres & degrees





Full-suspension bikes always get cheaper components than similarly priced hardtails. The Anthem X5 is less expensive to boot, *and* it has a premium frame. Something has to take a hit. It's the groupset. Instead of 30-speed SLX/XT, it's 27-speed Alivio with a Deore Shadow rear mech. Shifting is noticeably less crisp. The front mech is hesitant, and the rear suffers from the more convoluted, friction-prone cable run that a full-suspension design dictates. That said, everything works, the range is fine, and you'll probably upgrade the gearing at some point anyway.

The Anthem X5 has the same hydraulic brake callipers as the XTC 29, with different levers and a smaller front rotor. Braking is good, though you can brake harder on the XTC 29 without losing grip or feeling like you might tip over the bars.

Both bikes are equipped with Giant's own brand bits. I liked the wider flat bar on the XTC 29, but wasn't keen on the won't-stay-white saddle on the Anthem.

The ride

I rode these bikes on night rides with my local cycling club; side to side with my 17-year-old son, Matt; and back-to-back on a timed loop (see 'Speed reading'). The last two rides provided the most useful comparisons. Matt rides at about the same pace as me but had never ridden a 29er or a full-suspension XC bike.

We rode the same route twice, switching bikes. Whoever was on the XTC 29 steadily pulled away from the rider on the Anthem X5. Gaps opened up on climbs. Matt lost traction and walked the hardest climb when he was on the Anthem X5; on the XTC 29, he

overtook me on the way up.

The XTC 29 is a kilo lighter and it is a hardtail. However, the Anthem climbs very well for a full-suspension bike: the rear suspension barely bobs at all from pedal input and it keeps the back wheel firmly connected even to rough ground. The big difference is the wheels. You get better traction with a bigger wheel, because you've got a longer section of tyre gripping the surface. And on steep climbs, when you're already pushing your limits to keep going, a bump or root that might balk a 26-inch wheel or require an extra surge of effort to climb up and over can roll virtually unnoticed under the bigger wheel.

The Anthem X5 was quicker riding at speed over choppy-surfaced singletrack. Thanks to its suspension it could accelerate where the 29er's back wheel was being kicked up by bumps. The Anthem felt faster even in situations when it wasn't. Despite being heavier and theoretically slower steering it felt easier to flick about the trail and (stutter bumps apart) more influenced by the trail. Matt found riding the Anthem more engaging, saying that he felt it harder to move his weight around on the 29er and that he felt more like a passenger on it. 'Engaging' is a two-edged sword. When I got off the XTC 29 and onto the Anthem, I found the latter more nervous and came close to crashing it.



A cassette that goes to 36T compensates for the bigger wheels. The Fox fork (above right) has a reinforced steering response thanks to a tapered steerer and a 15mm axle. Its offset is 45mm

Summary

For trail centre fun and games, Matt enjoyed the Anthem X5 more

RIVALS



Trek Paragon £1500

Quite like the XTC 29, but with a custom offset fork (51mm) and a shallower head angle. Gearing is mostly Sram X7. trekbikes.com/uk



Trek Fuel EX5 £1400

Similar quality components to the Anthem X5 (e.g. Recon Silver fork, Sram X5), but with 120mm travel not 100mm. trekbikes.com/uk



Scott Scale Elite £1400

Also gets a Recon Gold TK 100mm fork but not the tapered steerer or QR15 axle. SLX/XT gearing. scott-sports.com



Scott Spark 60 £1400

XC bike with 120mm Recon fork and three-setting rear suspension (110mm, 80mm, locked out). Deore/SLX gears. scott-sports.com



than the XTC 29. But he thought the XTC 29 would be better for the kind of speed or distance cross-country riding that both bikes are ostensibly designed for. I wouldn't argue with that. I'm convinced that you will go further or faster, or just use less effort, on a 29er like the XTC 29.

The Anthem X5 is a nice bike nevertheless. Some will sniff at the

idea of a £1400 bike with Alivio components, but drivetrains wear out eventually. You could upgrade the X5 to whatever level you wished in time. Until then, you've got a comfortable and efficient full-suspension bike with as much travel as most of us actually need for non-extreme riding.

The XTC 29 will handle trail centre riding just fine. Where you'll notice the difference, I think, is on all-day rides across the hills; in any kind of enduro or XC race; or just on off-road club rides where you want to push the pace up a notch. It's scarcely less comfortable than the Anthem and there's less to go wrong because it's a hardtail. Rough stuffers will rue the lack of frame fittings, and I'd certainly change the tyres. But ignore what the forum mumblers say about big wheels. They're not a fad, and there are genuine pros and cons. The XTC 29 makes the most of the pros and minimises the cons: it's one of the best hardtails I've tested.



TECH SPEC

Bike	Giant anthem X5
Price	£1695
Weight	11.38kg (25lb), no pedals
Size	M
Sizes available	S (16), M (18), L (20), XL (22in)
Frame & fork:	AluX SL aluminium frame, hydroformed, fittings for 1 bottle. Fox F29 RL-11 fork with tapered steerer, QR15, 100mm travel.
Wheels:	52-622 Maxxis Aspen tyres, Giant P-XC2 29 double wall aluminium rims, Giant Tracker front hub, Shimano M529 rear hub, 32x3 spokes
Transmission	no pedals, Shimano SLX chainset 175mm, 24/32/42T chainrings, Shimano HG74 chain, Shimano HG81 11-36T cassette. Shimano SLX 30-speed shifters, Shimano SLX front mech, Shimano Deore XT Shadow rear mech. 30-Speed, 19-111 inches.
Braking	Shimano M445 hydraulic discs with 180mm front and 160mm rear rotors, Shimano M505 levers
Steering & seating	685mm Giant Connect flat handlebar, 90mm Giant Connect stem, Giant MTB OverDrive headset, Giant XTC saddle, 30.9 x 375mm Giant Connect seatpost
Accessories	None
Contact	giant-bicycles.com

SPEED READING: GARMIN EDGE 500 DATA

Course length:	5.8km, with 175m of climbing.	
	Anthem X5	XTC 29
Time taken:	30:34	28:42
Average speed:	11.2km/h	12.2km/h
Max speed:	29.7km/h	30.7km/h



The graphs show speed (top), altitude (middle) and heart rate (bottom). The Anthem is blue, the XTC 29 red. I rode the bikes back to back at a heart rate of about 160bpm on a route that mostly followed the Dalby XC World Cup course, switching to the red route between Worry Gill and Medusa's Drop.

The speed graphs show that I started quicker on the Anthem

X5, then made up time with the 29er coming up out of Worry Gill onto a section of flowing singletrack (11-14 minutes). The biggest differences between the rides were the top speeds down the steepest, twisty descents: the red switchbacks at 16-18 min, and the short black descent from Jingleby summit at 22-24 min.

This data isn't conclusive as there were too many variables, such as:

- I rode the Anthem first, the XTC 29 second. Based on my lap times from races on roughly this course, the second lap ought to have been 1-2 minutes slower.
- Even ignoring the HR spike on the second lap (a misreading or a heart flutter), my heart rate was a bit higher on lap 2. This could be due to cardiac drift (where, for the same power output, your heart rate rises as exercise goes on) and/or unconsciously trying harder.
- The trail was empty for lap 1. On lap 2, I lost a few seconds passing other cyclists.
- The Garmin Edge 500 showed slightly different readings, since it creates Trackpoints every couple of seconds rather than continuously. It logged the first lap as 5.72km with 176m of ascent, and the second as 5.86km with 174m of ascent.

Measurements taken with suspension unsagging, in millimetres & degrees

