Bird & Bird

Supersize this: Unwired Planet American style.

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On Friday evening, as many of us were settling down to celebrate Christmas, from the City of Angels there came tidings of a FRAND injunction...

In the case of *TCL v Ericsson*, the Honourable James V. Selna, Judge of the District Court of the Central District of California (Los Angeles) handed down a court-ordered FRAND license[1]. The case has much in common with the UK's *Unwired Planet*[2] decision earlier in the year. Like Mr Justice Birss, Judge Selna has used comparable licences and a top-down analysis to reach a FRAND rate. But this decision considers the entire Ericsson portfolio. It uses a wider range of comparable licences. And it weighs in at 140 pages in total. It's been supersized.

It was not many months ago that US District Court Judge James Robart, speaking at the Annual San Francisco meeting of the IPO, strongly criticised the *Unwired Planet* decision. Robart argued that Birss J. had been wrong to find specific royalty rates for the technology, rather than offering a range[3]. He stated that he did not expect the judgment to be followed in US courthouses. Similar comments had been made by former Chief Judge for the Federal Circuit Paul Michel, who told IAM[4] that the US legal system was traditionally inward looking and so rarely paid much heed to overseas cases. That it may be so, but Judge Selna's decision has much in common with the decision of Birss J. And like Birss J, Judge Selna did indeed set specific royalty rates for the technology.

The decision, unfortunately, will not be bringing tidings of comfort and joy to the holders of standards-esential patent portfolios. Although adopting a similar methodology to that used in *Unwired Planet*, on many points Judge Selna has adopted TCL's arguments over Ericsson's. As a result, the numbers generated are favourable to implementers.

Background

Ericsson needs no introduction. TCL may need a little. TCL is the largest mobile phone company that you've never heard of. Based in China, it sells in many countries under its own brand but sells internationally under the Alcatel and (more recently) Palm and Blackberry brands. In the last quarter of 2016 TCL was the seventh largest seller of handsets globally.

Our story begins in the usual way. TCL was unlicensed, and Ericsson had sued in several countries for patent infringement. The parties were unable to agree licence terms. But they did manage to agree one thing: they agreed to a binding court adjudication of a licence rate.

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[1] *https://www.scribd.com/document/367797012/Document-4*
http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-1.pdf
http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-2.pdf
http://images.law.com/contrib/content/uploads/documents/1/TCL-v.-Ericsson.Decision-part-3.pdf
[2] *Unwired Planet v Huawei* [2017] EWHC 711 Pat
[3] http://www.iam-media.com/Blog/Detail.aspx?g=a0602c89-7096-44ed-884c-a933a13d5ae9
[4] http://www.iam-media.com/Blog/Detail.aspx?g=bfffd17b-75e0-4939-8923-e61bd25949b4

It was TCL who beat Ericsson to the punch: it filed a court action in CD California in March 2014, seeking a declaration of the rate, and making various allegations against Ericsson. Ericsson filed in Texas in June 2014. Both sides put patents of the other in issue, presumably to secure jurisdiction in their chosen venues. Ericsson lost the transfer battle, and its case was transferred to CD Cal and joined with the TCL case. The Californian court enjoined Ericsson from proceeding with SEP actions in other countries.

By the trial date, all patent issues had been put onto the back burner, and there were three issues before the court:

1) Had Ericsson complied with its obligations to offer its cellular standards-essential patents (SEPS) on Fair, Reasonable and Non-Discriminatory (FRAND) terms?

2) Were Ericsson's two offers (known as Option A and Option B) objectively FRAND?

3) If not, what would be a FRAND rate?

These were dealt with in a 10 day bench trial (no jury) in February 2017. During these 10 days Judge Selna managed to get through an impressive 24 witnesses, and written opinions from three experts on foreign law.

Much like *Unwired Planet*, the Court concluded that Ericsson had not breached its obligations. However, Ericsson's Option A and B offers were not FRAND. The court went on to set FRAND rates for Ericsson's 2G, 3G and 4G cellular SEPs.

As in *Unwired Planet*, Judge Selna gave an injunction. But the English court had only felt itself able to grant a "FRAND" injunction: an injunction against infringement of certain local patents, unless the implementer agreed to take a global licence on specific terms. This was because Birss J. accepted that his court could not force an infringer to take a FRAND license. It could merely enforce UK patents against the infringer if he chose not to take a FRAND licence.

Judge Selna did not have any such difficulty. He imposed a global 5-year licence agreement upon both parties, and set the royalty rates not just for the US, but also for Europe and the rest of the world. With both parties pushing for a court determined rate, it seems that the Californian court had few jurisdictional concerns.

Judge Selna also ordered the TCL corporate entity appearing before the California court to impose the licence terms upon its Affiliates. This is significant because, in a parallel case in the Hong Kong court, TCL is arguing that its wider group need not pay royalties to Nokia as only a single corporate entity had signed the licence agreement.

French law

Ericsson had made an undertaking to ETSI to grant licences to standards-essential patents on fair reasonable and non-discriminatory terms. What is becoming the usual cast of French experts gave evidence. Judge Selna reached the same conclusion as Birss J: the ETSI undertaking takes effect under French law as a *stipulation pour autrui*, similar to a contractual obligation for the benefit of a third party under common law. That is capable of being enforced by a court.

Valuation methods

In Unwired Planet, Birss J. used the comparable licences method as the prime valuation method. Where a patent owner has several out-licence agreements covering his portfolio, they can be used, with suitable adjustments, to determine what value the market has placed on the patent portfolio. This is much the same way as an estate agent may value a house, by comparing what similar properties have sold for.

Birss J. also used a "top down" methodology as a check. Under the top-down method, the court works out the share of the patents covering the technology owned by this patent holder. If it knows the total value of the technology, it can allocate a share of that value to the patent owner.

In *TCL v Ericsson*, TCL based its main argument on the Top Down approach, but also put forward a Comparable Licence analysis. Ericsson put forward a Comparable Licence approach, and as a secondary argument it sought to demonstrate that the rates it asked for in Options A and B were far less than the value that its technologies brought to TCL's products. Ericsson did not put forward a top-down approach.

Top Down

TCL's steps were as follows:

1) take an aggregate royalty (ie what should the total royalty burden be for cellular technology on any handset);

2) work out how many Ericsson-owned patents are essential to each cellular standard (the "numerator");

3) work out how many patents in total are essential to each cellular standard (the "denominator");

4) determine therefore how much of the aggregate royalty should be attributed to Ericsson;

5) evaluate the relative importance and contribution of Ericsson's patents, and adjust the Ericsson rate to reflect that;

6) evaluate how Ericsson's patents compare when looking at forward citations. The theory is that if a patent is important, it will be cited more often by other patents. This can be used as a proxy for value. Adjust the Ericsson rate to reflect the result of that analysis;

7) adjust the Ericsson rate downwards to reflect that some of the Ericsson patents will expire over the five year term of the licence;

8) adjust the Ericsson rate down in geographic regions where Ericsson has fewer patents.

Aggregate rate

There are many papers and theories about what should be the aggregate royalty rate on cellular devices. Opinions have changed over time.

The court took note of two statements made by Ericsson. In 2002 Ericsson had been part of a consortium that supported a "modest single digit percentage royalty rate" for 3G. The court took this to be 5%. In relation to 4G the Court relied on a similar statement from 2008, in which Ericsson suggested a cumulative rate of 6-8%.

The court now held Ericsson to those figures. Ericsson argued that when it made these statements it had never expected the prices of mobile phones to fall as low as they have done today. It argued that the statements only applied to basic 3G and 4G as each was envisaged at the time, and not the huge further advances that have been made to both of those technologies. Judge Selna remained unmoved.

Share of SEPs

TCL's approach in determining the total number of patents essential to a standard, and Ericsson's

share, was not dissimilar to the "Huawei Patent Analysis" method used in Unwired Planet. TCL took the total number of declared SEPs in 2015. It eliminated expired patents. It eliminated any without an English language member. It grouped them by patent owner. TCL then employed a number of engineers in India to review a sample of each portfolio, and to rate them as essential or not essential.

As with the Huawei Patent Analysis, there were a number of criticisms of this methodology. The engineers knew who they were working for, and who they were working against. Human nature being what it is, they may have wanted to flatter their employer. They spent a maximum of 20 minutes per patent and were paid only $100 per review.

It is unclear why neither party used PA Consulting's reports of rates of patent essentiality. The criticism most often levied at those reports is that the reviewers spend an average of one hour per patent. But that is at least three times more than the TCL engineers spent. And the advantages of the PA reports are: 1) that they already exist (saving time and cost); and 2) that they are neutral: PA did not set out to make any one portfolio look good or bad.

Newly Acquired and expired patents

The court accepted that Ericsson would acquire new patents over the term of the licence. But it found that others in the industry would also acquire new patents. In the absence of evidence to suggest otherwise, the court assumed that the rates of acquisition of new patents would not change, in other words Ericsson's share would remain the same. It therefore made no adjustment to the size of Ericsson's portfolio to account for new patents.

The court did make an adjustment for the fact that some Ericsson patents would expire over the term. But so will other patents in the industry. One might assume that the same approach should be taken as to new patents, above, as shares will remain unchanged. But Judge Selna reasoned that as patents expire the technology becomes public. If he were to adjust the industry total number of patents downwards as they expired, that would attribute the value of each expiring patent amongst the remaining patent holders. Consequently, he made a downwards adjustment to the Ericsson share of patents to allow for Ericsson patents expiring, but made no corresponding adjustment to the total number of patents to allow for other patents expiring.

Here, with respect to the Judge, he falls into error. There may be a good argument that, as patents lapse, the technology falls into the public domain, and so the consumer should appropriate the value. But in this calculation we are starting from the artificial assumption that the total value of the technology remains as a fixed percentage of the purchase price of the handset over the life of the technology. That percentage allocates value only as between the patent owner and the patent implementer. The allocation of value with the public comes not from the percentage, but from the selling price of the device. For any given technology, price decreases over time. It is that decrease in price over the life of the technology which allocates increasing value to the consumer, because as time goes on he pays less for the technology.

In calculating the patent owner's percentage, therefore, omitting to adjust the total number of patents downwards as they expire does not allocate to the consumer the value of technology covered by expired patents. It allocates the value of the technology covered by expired patents to the implementer (here TCL). That must obviously be wrong.

Perhaps if Ericsson's portfolio had been older than average, a downwards adjustment might have been necessary to reflect rates of expiry. But otherwise, it would have been more consistent to account for expiring patents over the term of the licence in the same way as newly acquired patents.

Quality Adjustments

Judge Selna did not go along with many of TCL's further adjustments. His main difficulty with the

attempts to adjust for the quality of the patents in the Ericsson portfolio was that TCL's experts had confined their attention to Ericsson's patents only, and had not considered the effect of their adjustments on the industry as a whole.

At the end of this process, the figures were as follows:

	Total Industry patents found essential	Ericsson's essential patents (according to TCL)	Ericsson's essential patents (according to Ericsson	Share
2G	325	12	12	3.28%
3G	953	20	25	2-2.6%
4G	1481	70	112	4.7-7.5%

Geographical adjustments

Like most portfolios, the Ericsson portfolio has more patent family members in the US than in other countries. TCL argued that the Ericsson rate outside the US should be lower than in the US.

A similar argument was applied in Unwired Planet. Birss J. accepted evidence that parties to licensing agreements often agreed lower rates in some countries (particularly China). He gave a discount for those countries.

Unwired Planet has objected to this. The discount applied by Birss J. was a discount from a global blended rate. That global blended rate already had factored in the fact that in some countries the patent owner holds few, if any, patents. It factored in the fact that in some countries it is very hard to enforce patents. If one therefore accepts that royalties should be higher in some countries and lower in others, it is wrong to apply a discount to the global rate in the lower rate countries, without making a corresponding upwards adjustment for the higher rate countries. This is one of the appeal points that will be decided in May 2018.

Judge Selna makes a related error. He does not determine the European rate in the same way as determining the US rate: by determining what is the share of the total number of European SEPs that Ericsson holds. He instead applies a discount to the Ericsson US rate to reflect the fact that Ericsson's European portfolio is smaller than its US portfolio.

His reasoning is that Ericsson has fewer patents in Europe because Ericsson chose not to file patents for certain inventions that they have patented in the US. Therefore, he concludes Ericsson has gifted some technology to European consumers. This, he finds, should be reflected in a lower royalty rate in Europe.

This approach combines the error made by Judge Selna in relation to the expiring patents, with the error alleged against Birss J. in Unwired Planet. The top-down exercise starts from the artificial assumption that all handsets, globally, have an aggregate royalty rate which is a set percentage of the selling price. That rate is a blended global aggregate rate. It already takes account of the fact that in some countries there are fewer patents. To take a further discount from that rate for countries with fewer patents would apply a double discount.

That aggregate royalty rate also allocates value not between patent owner and consumer, but between patent owner and implementer. Consequently, by ordering TCL to pay a lower royalty rate in Europe, Judge Selna is not giving the value of inventions which Ericsson didn't patent in Europe to the European consumers. He is giving it to TCL. And that, once again, seems wrong.

The end result of the top-down approach is that Judge Selna concludes that TCL should pay the following rates:

	USA	Europe	Rest of World
2G	0.16%	0.12%	0.09%
3G	0.10-0.13%	0.09-0.11%	0.08-0.10%
4G	0.28-0.75%		0.20-0.53%

Interestingly, the 2G and 3G rates reached by Judge Selna are even lower than the rates contended for by TCL's expert, Dr Leonard. The 4G rates are higher.

Comparables Approach

Birss J. in Unwired Planet found that the best way to value a licence to a portfolio was to consider what other licensees had agreed to pay. He considered that the most relevant factors in identifying comparable licences were (i) whether the licensor was the same (i.e. Unwired Planet or Ericsson); and (ii) whether the licence was "recent".

Since Birss J. had found that the FRAND rate does not vary depending on the size of the licensee, he did not treat the identity of the licensee, or whether it was similarly situated to Huawei, as a strong factor in assessing the degree of comparability. In the end, perhaps because of a lack of comparable licence agreements, Birss J. focussed on the Ericsson and Samsung cross licence agreement.

Judge Selna took this a step further. He found that relevant factors for comparable licences included geographic scope: licences for China-only implementers were not as useful as licences to global players. He found that the financial success, brand recognition, operating system, and having retail stores were not relevant factors. Consequently, he found that Apple, HTC, Samsung, LGE, ZTE and Huawei were all comparable licensees to TCL.

What neither court has taken into account is the difference arising from bargaining power. It is no coincidence that the patent owner argues for criteria for comparability that exclude Apple and Samsung. It is equally no coincidence that the implementer argues strongly for their inclusion. Even within the constraints of FRAND, there is little doubt that the huge, wealthy implementers can negotiate a better deal than, for example, HTC.

Judge Selna found that to exclude Apple or Samsung would allow them an unfair advantage over smaller players. That may be true, but the effect of including the biggest players with no adjustment for their bargaining strength is a gradual ratchet down of rates. Large implementers will always insist on a better deal than their smaller competitors, and will always have the bargaining power to obtain that. Courts then award the rates obtained by the large implementer to the smaller implementer. The next time, the large implementer will demand a yet better deal. And so it goes on.

Unpacking the Comparable licences

Comparable agreements need to be unpacked. What does this mean? Most patent licences are cross licences. To find out what value was attributed to each patent portfolio, the court needs to determine how many products the parties reasonably expected each other to sell over the life of the license, and how strong the portfolios were relative to each other. From that it is possible to unpack a one-way royalty rate for each patent portfolio.

The disputes that arise at this point are:

1) how the parties rated each other's portfolio

2) how they allocate payments between past and future sales; and

3) what estimates they used for future sales.

Relative Strengths of Portfolios

To determine the relative strengths of portfolios, TCL used the same portfolio analysis as it had used to determine the total number of SEPs in the standard. The limitation of this approach was that it took numbers of patents only from 2015. But the comparable licences are from different dates, and numbers of SEPs change over time.

Birss J. had the same difficulty in Unwired Planet, and for that reason preferred a comparable licence that was closest in time to the licence being determined by the court: with less time elapsing there was less chance of a major change in portfolios.

A more sophisticated approach would be to use a method that allows portfolio analyses to be rolled forwards or back in time. Using such a tool, a cross licence from 2012 can accurately be adjusted to reflect different relative portfolio strengths in 2016 or 2017. The Bird & Bird Pattern tool is designed to achieve that[5].

Allocation between past and future sales

Many licence agreements include a past release and payment. It may be unclear how much of the payment is attributable to past sales and how much is attributable to the future. Often the parties want it to be unclear: the patent holder will argue that all of the consideration is for future sales (implying a high royalty rate), whilst the implementer will argue that most is for past sales and it is paying a low rate on its current sales.

In practice it is extremely difficult for a patent owner to secure full payment for past sales. The implementer knows that the patent owner cannot sue him patent by patent and country by country for damages. Limitation periods limit the level of past damages. Licensing professionals accept that the payments for the past are usually discounted.

TCL and Ericsson argued in respect of each comparable licence about how much was attributed to past infringement of Ericsson's patents. With little to choose between them, Judge Selna adopted the approach that past sales should be given equal value as future sales. This assumption reduced the rate per product.

Estimates of Future Sales

Typically a patent owner argues that, in any comparable licence, the estimated future sales of the licensee are low. That would give a higher royalty per product. The party seeking a licence argues the opposite. Ericsson and TCL did just this.

Judge Selna had, in evidence, Ericsson's internal contemporaneous estimates of sales of Ericsson's licensing counterparts. In some cases these were lower than the future sales forecasts of IDC, an industry analyst. Judge Selna dismissed Ericsson's evidence in these situations, preferring the IDC data. One reason was that the Ericsson evidence was self-serving.

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[5] https://www.twobirds.com/en/client-solutions/consulting/pattern

Again I am not sure that I agree with that approach. In unpacking a cross licence, the exercise is to determine the parties' subjective beliefs at the time, not to determine what the parties must have expected with the benefit of hindsight. In doing so, contemporaneous internal records of what the party believed at the time must be the best evidence. It may be that Ericsson underestimated the counterpart's future sales. But it seems unlikely that Ericsson would have done so tactically, forgoing royalties against one of the bigger players, in order possibly to achieve a better result against TCL.

The court's conclusions on individual licences are redacted, but the end results are not. Judge Selna finds that the comparable licences: Ericsson's cross licences with Apple, Samsung, Huawei, LG, ZTE and HTC unpack to reveal one way royalty rates for the Ericsson portfolio ranging between:

	Low	High
4G	0.31%	0.66%
3G	0.33%	0.67%

These are significantly lower than the blended one-way rate found by Birss J. in Unwired Planet for Ericsson's portfolio of 0.8%[6]. They are very much lower than the Ericsson rates revealed in the judgment of the Delhi High Court in *Ericsson v Intex*[7].

The effect of ST Micro

Judge Selna notes in the injunction that implementers who use ST Micro ASICS obtain a royalty-free licence to Ericsson's WCDMA patents for 3G products. This, presumably, is a factor which drives down the rate that Ericsson can charge for WCDMA, and will be reflected in these comparable licences. Yet this does not appear to have been taken into account in unpacking the cross licence agreements. Qualcomm has also had that ability[8]. Since all of the comparable licensees are users of Qualcomm chips the rates are presumably also lowered through this fact. That also does not appear to have been taken into account in either this, or the Unwired Planet decision.

Ericsson's ex standard approach

The rates found by Judge Selna are significantly lower that Ericsson's option A and Option B offers. Those were:

Option A: $30m per year for the first $3bn sales (an effective rate of 1%), thereafter:

4G: 2%

3G: 1.5%

2G: 0.8%

All with a 50% discount for China internal sales

Option B: 4G: 1.5% with a $4.50 cap and $2 floor

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[6] Para 464 *Unwired Planet*
[7] http://lobis.nic.in/ddir/dhc/MAN/judgement/16-03-2015/MAN13032015S10452014.pdf
[8] https://www.qualcomm.com/news/releases/1999/03/25/ericsson-and-qualcomm-reach-global-cdma-resolution

3G: 1.2%

2.5G EDGE: 1%

2G GSM/GPRS: 0.8%

Ericsson sought to defend these with an econometric analysis to demonstrate the value that its technology brought to handsets. It identified particular technologies in handsets, such as battery saving, and improved data speeds. It conducted surveys of consumers to find out how much more they were happy to pay for a product with those technologies. It found, for example, that consumers would pay $15 for a device with a 50% longer battery life, or between $25 and $35 for a device with significantly improved data speeds. Ericsson then determined what share of each technological feature its patents represented.

The trouble was: the results were too good. With just one or two features, the amounts attributable to Ericsson technologies were significantly more than any implementer was actually paying Ericsson. The Judge also felt that the surveys were not rigorous, and tended to over-emphasise the value of any one technological feature in the mind of the survey participants. Ultimately, Judge Selna did not accept this approach.

Applying these to set a FRAND rate

For 4G, Judge Selna largely accepted the Comparables Approach and Top-down Approach. He discounted outlier results and found that a FRAND rate for TCL for 4G for the US was in the range of 0.415 to 0.66%. He awarded 0.45%, at the lower end of the range.

For 3G he noted a considerable discrepancy between the results of the top down analysis (0.1-0.13%) and the comparable licences (0.3-0.49%). He concluded that the top down result was unreliable for 3G and awarded 0.3% for 3G for the US, at the bottom of the range of comparable licences. The results were then discounted for geography, and the final award was as follows:

	US	Europe	RoW
4G	0.45%	0.314%	
3G	0.3%	0.264%	0.224%
2G	0.164%	0.118%	0.090%

For past unlicensed use of Ericsson's SEPs, TCL was ordered to pay a little over $16m.

Conclusions

As Judge Selna appears to have enjoyed an unchallenged rate setting jurisdiction, he was not faced with the "*Vringo*" problem that faced Birss J.. Birss J.'s problem was this: if FRAND is a range, and the patent owner asks for a rate at the top of the range, but the implementer will only pay a rate at the bottom of the range, do I enjoin him or not? Birss J. concluded that FRAND was a point, not a range.

Some commentators have criticised this decision (not least other judges, as mentioned above). I am not sure there is in fact much of a difference in approach. Judge Selna finds that differing licences may be FRAND depending on the economics of the specific license. Birss J.' view that FRAND is a point which can be determined in particular economic circumstances. I understand Birss J. to mean that FRAND is a point which we can determine with error bars, and that is not inconsistent

with Judge Selna's approach. He too has determined a point within error bars. But Judge Selna awards the point at the bottom of the error bars.

Judge Selna found that comparable licences are "a proper measure but not the exclusive means". However, when two approaches gave different results in 3G, Judge Selna preferred the results comparable licences approach. In that sense he was consistent with the approach adopted by Birss J., although his end results were somewhat lower.

Judge Selna did not find that Ericsson had violated its FRAND obligation. Following *Microsoft v Motorola*[9] he found that a patent owner does not violate FRAND obligations merely by offering higher rates than are ultimately awarded. But he rejected Ericsson's attempt to import a test from antitrust law that, to prove a violation, TCL must show harm to competition as a whole, not just harm to the competitor. This reflects Birss J.' findings that Unwired Planet did not violate EU anti-trust law (Article 102 TFEU) merely by demanding a rate that was higher than FRAND.

Interestingly, TCL did not appear to raise the Smallest Saleable Patent Practising Unit argument to argue that the value of the SEPs must be lower than the cost of the chip. Or if it did, it did not make it to the final arguments at trial. We may be starting to see the end of that argument.

There is little doubt that this is a low result, and not a good outcome for SEP holders. It may reinforce the perception that, for cellular standards technologies, the US courts remain the friend of the implementer.

But this isn't the end of the story. Shortly before this decision, on 7 December another US district court awarded Ericsson $75m in damages for TCL's infringement of one of Ericsson's non-essential patents for mobile phones.

It is interesting to compare that $75m figure, for past use of a single non-essential US patent, with the $16m awarded by Judge Selna for the past use of Ericsson's entire, substantial SEP portfolio globally. Something still doesn't add up across the pond.

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[9] 864 F Supp 2.d 1023, 1038 (WD Wash 2012)