U.S. Patent No. 8,988,796's Claims 1, 15, and 21 and Certified Translation of Taiwanese Patent Applica
(Ex. 2020) ("'029 Application") Comparison

'796 Patent Claim Elements	Taiwanese Application No. 102139029
1. An image capturing lens system comprising, in order from an object side to an image side:	'029 Application at 123:"Claim[] 1. An image capturing lens system compr from the object side to the image side:" '029 Application at 72: "This invention provides an image capturing lens sy from an object-side to an image-side: a first lens element with refractive pow '029 Application at 74:"The present disclosure relates to an image capturing particularly, the present disclosure relates to a compact image capturing lens to a mobile terminal." '029 Application at 75: "An aspect of the present invention provides an ima system which includes, in the order from the object side to the image side: a …; a second lens element …; a third lens element …; and a fourth lens elem '029 Application at 81: "An image capturing lens system includes, in the or side to the image side, a first lens element, a second lens element, a third le fourth lens element." '029 Application at 87: "The imaging device of the 1st embodiment include lens system and an image sensor (170). The image capturing lens system ha with refractive power and includes, in the order from the object side to the i
[1.1] a first lens element having refractive power;	'029 Application at 123:"Claim[] 1. An image capturing lens system compr element having refractive power …." '029 Application at 72: "This invention provides an image capturing lens sy from an object-side to an image-side: a first lens element with refractive pow

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'029 Application at 75: "An aspect of the present invention provides an ima
system which includes, in the order from the object side to the image side: a
with refractive power …."

'029 Application at 81: "The first lens element can have positive refractive
provides the image capturing lens system with the positive refractive power
favorable for reducing the total track length of the system. The first lens ele
convex object-side surface, to effectively enhance the feature for reducing t
length."

'029 Application at 87-88: "The imaging device of the 1st embodiment incl
capturing lens system and an image sensor (170). The image capturing lens
elements with refractive power and includes …. A first lens element (110) v
refractive power is made of plastic material and has a convex object-side su
paraxial region thereof and a concave image-side surface (112) in a paraxial
both of the surfaces are aspheric …."

'029 Application at 88-89: "Table 1 shows the detailed optical data of the 1s
Table 2 shows the aspheric surface data; wherein, the unit for radius of curv
focal length is in millimeters and HFOV is defined as half of a maximal fiel

TABLE 1

Embodiment 1

f = 1.17 mm, Fno = 2.20, HFOV = 46.7 deg.

Surface #		Curvature Radius		Thickness	Material	Index
0	Object	Plano		Infinity		
1	Lens 1	1.666	ASP	0.256	Plastic	1.650
2		2.139	ASP	0.031		
3	Ape. Stop	Plano		0.019		
4	Lens 2	5.712	ASP	0.671	Plastic	1.544

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5		-0.464	ASP	0.130		
6	Lens 3	-0.228	ASP	0.230	Plastic	1.634
7		-0.480	ASP	0.030		
8	Lens 4	0.679	ASP	0.483	Plastic	1.535
9		3.062	ASP	0.300		
10	IR-cut filter	Plano		0.145	Glass	1.517
11		Plano		0.204		
12	Image	Plano		-		

Note: Reference wavelength is 587.6 nm (d-line).

TABLE 2

Aspheric Coefficients

Surface #	1	2	4
k =	1.2237E+00	1.7244E+01	9.0000E+01
A4 =	3.1416E-01	1.1703E+00	-4.1498E-01
A6 =	-1.0010E+00	-2.0080E+01	3.6416E+00
A8 =	4.5872E+01	5.2569E+02	4.3035E+01
A10 =	-5.9339E+02	-3.0044E+03	-7.4996E+03
A12 =	4.0961E+03	-1.6432E+05	1.3290E+05
A14 =	-1.4631E+04	3.1882E+06	-1.1481E+06
A16 =	2.0715E+04	-1.7563E+07	3.7732E+06
Surface #	6	7	8
k =	-9.8477E-01	-3.2669E+00	-6.1619E-01
A4 =	3.5682E+00	-1.8915E+00	-1.2870E+00
A6 =	-3.7958E+00	8.7075E+00	3.1244E+00
A8 =	-1.1135E+02	-3.6761E+01	-9.1933E+00

<table>
<tr><th>’796 Patent Claim Elements</th><th>Taiwanese Application No. 102139029</th></tr>
<tr><td></td><td>
<table>
<tr><td>A10 =</td><td>1.5862E+03</td><td>1.7257E+02</td><td>1.7146E+01</td></tr>
<tr><td>A12 =</td><td>-8.7685E+03</td><td>-4.8146E+02</td><td>-1.9850E+01</td></tr>
<tr><td>A14 =</td><td>2.3054E+04</td><td>6.7728E+02</td><td>1.2752E+01</td></tr>
<tr><td>A16 =</td><td>-2.3557E+04</td><td>-3.6747E+02</td><td>-3.5165E+00</td></tr>
</table>
”
</td></tr>
<tr><td>[1.2] a second lens element with positive refractive power having a convex image-side surface in a paraxial region thereof;</td><td>’029 Application at 123:”Claim[] 1. An image capturing lens system compr
lens element with positive refractive power having a convex image-side sur
region thereof ….”

’029 Application at 72: “This invention provides an image capturing lens sy
from an object-side to an image-side … a second lens element with positive
having a convex image-side surface in a paraxial region ….”

’029 Application at 75: “An aspect of the present invention provides an ima
system which includes, in the order from the object side to the image side: .
element with positive refractive power with a convex image-side surface in
thereof ….”

’029 Application at 82: “The second lens element has positive refractive po
favorable for the second lens element adjusting the light gathering ability of
element. The second lens element has a convex image-side surface in a para
so that it is favorable for correcting the astigmatism of the system.”

’029 Application at 87-88: “The imaging device of the 1st embodiment incl
capturing lens system and an image sensor (170). The image capturing lens
elements with refractive power and includes … A second lens element (120
refractive power is made of plastic material and has a convex object-side su
paraxial region thereof and a convex image-side surface (122) in a paraxial
both of the surfaces are aspheric ….”</td></tr>
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